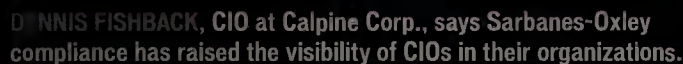


John Swainson, CA's CEO-to-be, is making the software vendor look more like his old employer, IBM. PAGE 7

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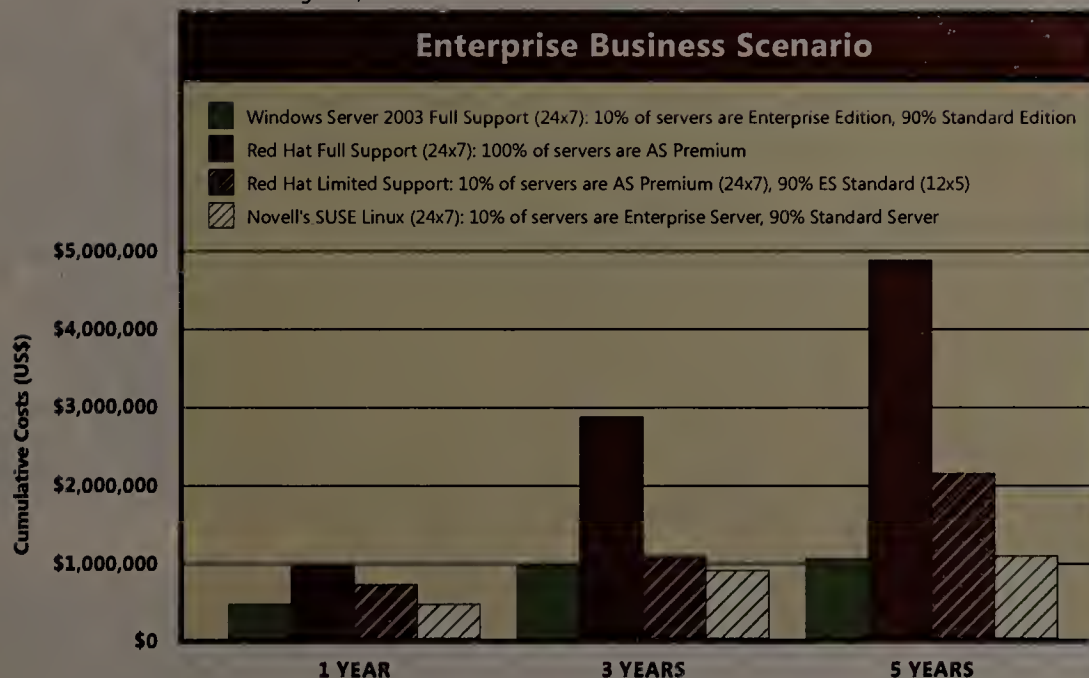


CEOs and CFOs increasingly rely on the IT department to help them comply with Sarbanes-Oxley and other regulations. It's a high-profile job, but there's a flip side: IT may be blamed for compliance disasters. By Thomas Hoffman. **PAGE 35**

NIST made nine recommendations for implementing
VoIP, page 45

**HAVE A GUT FEEL FOR THE ACQUISITION
COSTS OF LINUX VS. WINDOWS?
HERE'S A DETAILED ANALYSIS.**

Source: BearingPoint, 2004



A recent study of licensing and support costs conducted by BearingPoint, a leading independent consulting firm, found that these acquisition costs for Windows Server™ 2003 are comparable to Red Hat Enterprise Linux or Novell's SUSE Linux Enterprise Server "despite the common perception that Linux is free or very inexpensive." However, if you require full 24x7 phone support on all servers, licensing and support for Windows Server 2003 can cost up to 73% less than Red Hat Enterprise Linux* over five years.

For the full study, visit microsoft.com/getthefacts



*Red Hat Full Support (24x7) estimates based on case where 100% of servers are Enterprise Linux AS Premium. Red Hat Limited Support estimates are based on case where 10% of servers are Enterprise Linux AS Premium (24x7 phone support) and 90% are Enterprise Linux ES Standard subscriptions (9 a.m.–9 p.m. EST M–F phone support). Windows Server estimates are based on case where 10% of servers are Windows Server 2003 Enterprise Edition and 90% are Windows Server 2003 Standard Edition (24x7 phone support on all). This study was commissioned by Microsoft. © 2005 Microsoft Corporation. All rights reserved. Microsoft, Windows, the Windows logo, Windows Server, and Windows Server System are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.



**JUST BECAUSE THE SYSTEM IS DOWN
DOESN'T MEAN THE PEOPLE USING IT SHOULD BE.**

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Rx for Better Health Care

In the Technology section: Electronic health records could transform health care, but the technology and finances to support them are years away from being in place. **Page 23**

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ONLINE

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Plan Now for Longhorn's Arrival

OPERATING SYSTEMS: Two Avanade consultants offer tips on how you can prepare for Microsoft's operating system overhaul. **QuickLink 52090**

Re-examining Your Career Options

CAREERS: Columnist Stefano M. Stefan points out that there are new job opportunities to be found in the midst of the current IT outsourcing trend. Two worth noting: systems and business analysts. **QuickLink 52010**

No Agreement on Oath

SECURITY: The Open Authentication Initiative's efforts to create industry standards for stronger and cheaper authentication are getting mixed reviews. **QuickLink a5380**

In the Driver's Seat?

STORAGE: Forces are afoot that will help you take control of your vendors and product acquisitions, says Storage Networking World Online columnist Jon William Toigo. **QuickLink a5390**

Preparing for New Allies

DEVELOPMENT: PixelMedia's Thomas Obrey explains how to successfully outsource a development project using open communication, a well-defined scope and clear expectations. **QuickLink a5370**

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Throughout each issue of *Computerworld*, you'll see five-digit QuickLink codes pointing to related content on our Web site. Also, at the end of each story, a QuickLink to that story online facilitates sharing it with colleagues. Just enter any of those codes into the QuickLink box, which is at the top of every page on our site.

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- Newsletter Subscriptions **QuickLink a1430**
- Knowledge Centers **QuickLink a2570**
- The Online Store **QuickLink a2420**

AT DEADLINE

Mapics Acquired
In \$350M Deal

Infor Global Solutions plans to buy Mapics Inc., a publicly held maker of manufacturing applications, for just under \$350 million in cash. Infor, a privately held developer of ERP and supply chain software, said the combined company will have more than 17,500 customers in over 70 countries. The deal is expected to close this spring.

Microsoft Profit,
Sales Up in Q4

Microsoft Corp. reported today that its fourth-quarter profit more than doubled and that revenue rose 7% over the previous year. "Our record revenue came from across-the-board strength in both our business and consumer segments," said John Connors, chief financial officer at Microsoft.

MICROSOFT BY THE NUMBERS

	REVENUE	PROFIT
Q2 '05	\$10.8B	\$3.5B
Q2 '04	\$10.2B	\$1.5B

Crystal Reports
Added to BI Tool

Business Objects SA this week will reveal plans to include a new version of the Crystal Reports reporting tool in its Business Objects XI business intelligence software. Crystal Reports XI will feature support for Java developers and more support for end-user customization. The new version also includes a virtual workbench to organize reports.

Siebel Announces
Upbeat Results

Siebel Systems Inc.'s fourth-quarter results showed year-over-year growth in both revenue and income for the first time in more than three years. Revenue in the quarter rose 7%, while net income increased 32%.

SIEBEL BY THE NUMBERS

	REVENUE	PROFIT
Q4 '04	\$82M	\$54M
Q4 '03	\$76M	\$41M

Sun Begins Its Release of
Open-Source Solaris Code

Says full distribution is due by midyear; backers eye new drivers, hardware ports

BY PATRICK THIBODEAU

SUN MICROSYSTEMS Inc. hopes that open-source Solaris will draw in new developers, new users and new growth opportunities. But the initial focus of the initiative may be more prosaic: device drivers.

Drivers aren't sexy technology, but they're often cited by Sun, third-party developers and users as an obvious development target for the open-source effort, which Sun made official last week by releasing a piece of the Solaris code under a royalty-free license.

Brian Conlon, CIO at Howrey Simon Arnold & White LLP, a Washington-based international law firm, sees expanded driver support for peripheral devices as a plus. But Conlon said he isn't sure what else open-source Solaris may bring for users. The Unix operating system's kernel "is such a mature product now that I can't really see what open-source will add to it," he said.

Conlon added that he will withhold judgment on Sun's

open-source effort until all the code is released under its Common Development and Distribution License, which is expected around midyear. But, he said, "I would go to open-source Solaris before Linux because of who is behind it."

Getting Started

Ben Rockwood, a systems administrator at Homestead Technologies Inc., an Internet services company in Menlo Park, Calif., said the open-source Solaris code will make his job easier. "Now those of us who are working with Solaris every day on the job can actually access and increase the functionality of the system," he noted.

Rockwood was part of a group of about 60 Solaris users, developers and consultants that Sun organized to provide feedback on the open-source plan and its licensing model. The group will form the nucleus of the new open-source community around Solaris, participants said.

Scott McNealy, Sun's chair-

NEW INITIATIVE

OpenSolaris

■ Sun said its open-source license is based on the Mozilla Public License and has been approved by the Open Source Initiative's board of directors.

■ The company has set up a community Web site at www.opensolaris.org that will be the focal point for information about the open-source initiative.

■ Sun also said it's giving open-source developers free access to more than 1,600 Solaris-related patents.

man and CEO, said he hopes open-source Solaris will pick up a momentum of its own and help expand interest in the operating system. But he's uncertain about exactly how that will occur. "We just don't know where it will go," McNealy said in a teleconference. "We hope we get surprised."

Solaris may turn up on IBM's Power chip architecture, used in desktop systems as well as servers, according to Dennis Clarke, director of Blastwave.org, a not-for-profit group in Cobourg, Ontario, that distributes open-source

software for Solaris. "That is the kind of thing that you have every reason to expect to emerge," he said.

Clarke was a member of Sun's advisory group, as was Rich Teer, a Unix consultant in Kelowna, British Columbia, and author of the book *Solaris Systems Programming* (Prentice Hall, 2004).

Teer said he strongly believes that open-source developers will give Solaris expanded reach. Like any vendor, Sun has finite resources, he said. But if new peripherals emerge that open-source developers think should be supported in Solaris, "there is an opportunity for the community to write their own drivers," Teer said.

The first part of the code released under the open-source license is Solaris Dynamic Tracing, or DTrace. DTrace is a new feature in Solaris 10 that lets users examine the interaction of an application with the operating system using live code. **52244**

OPEN-SOURCE FOES

OpenSolaris and Linux are two very dissimilar ways of doing open-source, and that should be good for users, says Frank Hayes. See page 46.

Sun Increases Price of Middleware but Adds Scaled-Down Versions

SUN this week plans to announce that it's adding two Java development tools to its Java Enterprise System middleware stack and raising the price of the full suite. But it will also start allowing users to buy smaller and less-expensive sets of JES components targeted at specific business needs.

The price of the full version of JES will increase from an annual fee of \$100 per seat to \$140 per seat, an increase that affects only new users. Existing customers will continue to be cov-

ered under their current contracts, according to Sun, which said it has sold licenses for about 413,000 JES seats thus far.

Sun is creating five scaled-down JES suites that will cost \$50 per seat annually. For instance, the Java Application Platform Suite includes the enterprise edition of Sun's application server software, plus its Web and portal servers and the Java Studio Enterprise and Creator development tools that the company is adding to JES. Other tailored suites address system

availability, communications, identity management and Web infrastructure, Sun said.

John Rymer, an analyst at Forrester Research Inc., said that even with the price increase on the full version of JES, Sun's per-seat pricing is inexpensive compared with the cost of competing products.

But Rymer said the new, smaller suites solve a problem that Sun had with users who were interested only in some JES features. "There are many customers that will view the extras

not as goodies but as baggage, so the new packaging basically makes it more convenient for them to buy," he said.

The price increase and the new offerings will be detailed as part of Sun's quarterly product launch. In justifying the price increase on the full JES bundle, Joe Keller, vice president of marketing for Java Web services and tools at Sun, said last week that the company is adding in a lot of value with the Java development tools.

- Patrick Thibodeau

CA Remaking Itself in IBM's Internal Image

CEO-elect plans business-unit structure similar to the one at former employer

BY MATT HAMBLIN

John Swainson, who was brought in to run Computer Associates International Inc. two months ago, is restructuring the software maker along the same business-unit lines used at IBM, where he worked for 26 years before joining CA.

Swainson, CA's president and CEO-elect, revealed the restructuring in an e-mail to employees on Jan. 21 and discussed it in a conference call with financial analysts last week, after CA reported its third-quarter results.

The business-unit structure "has proven itself as an industry model for how to distribute products," Swainson said. The internal changes will "make us more effective from a development point of view and more aligned with marketing and sales," he added.

Few details of the new

structure have been revealed, although a CA spokeswoman said that the reorganization will give product development executives responsibility for profits and losses company-wide. The new units would focus on a broader range of products instead of just a single software brand, she said.

The business units will presumably create packages of products and ensure that the bundled software can work together, said Mark Ehr, an analyst at Enterprise Management Associates Inc. in Boulder, Colo.

"Conceptually, different parts of CA would work together as a team, while right now, very little cross-collaboration goes on," Ehr said.

"From my personal experience, you can have a salesperson go really into detail on their own brand with very little visibility into other things CA sells. This will break down the fiefdoms."

The business-unit concept sounds like a positive development, said Jeff Jenson, an information systems analyst at United Defense LP in Arlington, Va.

"Since IBM has been around a long time and has done really well, maybe it makes sense," he said.

United Defense uses CA's Unicenter Desktop DNA software and is doing research on some of the vendor's other products. Joe Loo-beek, lead information systems analyst at United Defense,



ARTZT was named executive VP of products at CA.

said in a separate interview that having CA's product units working in better harmony could only be advantageous for users. "If the business units are friendlier and not as cutthroat, it would be good for customers," he said.

But Harry Butler, support center manager at electronics supplier EFW Inc. in Fort Worth, Texas, is less concerned with the reorganization than he is with CA's products and customer service. "They can change everything they need to in their corporate world, and if they keep providing me quality products and extreme quality of service, that's my bottom line," he said. "If they don't provide that, I'll find another vendor."

In his e-mail to employees, Swainson said CA co-founder Russell Artzt was named executive vice president of prod-

ucts as part of the reorganization. Artzt has been running CA's eTrust security software unit, and he will continue serving as head of that operation. But all product development units now report to Artzt, Swainson said.

Mark Barrenechea, who had been CA's top product development executive, was named executive vice president of technology strategy and chief technology architect. Swainson said Barrenechea will work with him and Chief Operating Officer Jeff Clarke to "take the lead role in driving CA's technology and merger and acquisitions activity."

Ehr said Barrenechea's new job indicates that CA "is moving into an acquisition role" more so than in the recent past, when it was dealing with an accounting scandal that led to the ouster of former CEO Sanjay Kumar. **52225**

MORE ONLINE

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QuickLink a1640
www.computerworld.com

Users Eye Tools for Blocking Rogue E-mail Transmissions

Vendors add quarantine features to apps for monitoring outbound messages

BY JAIKUMAR VIJAYAN

Concerns about insider abuse of corporate information are spawning a market for security tools that can inspect outbound network traffic for unauthorized uses of data such as customer account numbers, health records and intellectual property.

And last week, San Francisco-based Vontu Inc. added a new twist when it announced upgraded software that not only monitors communications for leaks of confidential data but also blocks e-mail messages containing such information from leaving corporate networks.

Like rival products, Vontu 4.0 uses a combination of exact data matching, contextual

analysis and predefined policies to alert administrators when protected information is illegally transmitted via e-mail, instant messages, news lists or chat rooms. The tools store copies of suspect messages for further analysis.

But simply monitoring e-mail and saving messages with questionable content doesn't stop those messages from being sent. So Vontu 4.0 also has the ability to redirect or quarantine suspicious e-mail. "We've always had the point of view that the market will go from monitoring products to blocking products," said Michael Wolfe, Vontu's vice president of engineering.

A West Coast-based financial services firm has started

implementing the blocking function on outbound e-mail messages, said the company's chief security officer, who requested anonymity.

"The capability of seeing what is happening is useful," he said. "But we're looking ahead to being able to actually interdict these messages before they get out."

Being able to stop messages that violate corporate data policies could be useful in a regulated industry such as health care, said Sharon Finney, information security administrator at DeKalb Medical Center in Lithonia, Ga.

The hospital is using software from Englewood, Colo.-based Vericept Corp. to make sure that protected health information isn't being illegally transmitted out of its networks. The technology flags roughly 15,000 "events" every day, according to Finney.

But whether blocking tools really work will depend on the accuracy with which such

technologies can identify rogue messages while allowing legitimate e-mail traffic to pass through unhindered, Finney said. "Finding that balance is crucial," she noted.

Perpetual Entertainment, a San Francisco-based developer of multiplayer online games, uses network monitoring technology from Tablus Inc. in San Mateo, Calif., to protect its source code from being stolen, as happened to one of its gaming rivals.

"If you block something that's supposed to go out and you don't know about it, you're going to have some pretty unhappy customers."

MARK RIZZO, VP OF TECHNOLOGY, PERPETUAL ENTERTAINMENT

Adding a blocking function, while useful, would also mean dedicating workers to look at blocked messages, said Mark Rizzo, Perpetual's vice president of technology. "If you block something that's supposed to go out and you don't know about it, you're going to have some pretty unhappy customers," he said.

Vericept CEO Terry Larrew said his company plans to add support for quarantining suspicious traffic later this year.

But vendors of data monitoring tools must ensure that their products don't end up like intrusion-detection tools, which fell out of favor with users because of their tendency to generate very large volumes of alerts, said Trent Henry, an analyst at Burton Group in Midvale, Utah.

"False positives aren't a very big issue when you're only monitoring," he said. "But there's going to be a dramatically higher concern [with blocking]." **52247**

BRIEFS

Zend Raises Funds From Intel, SAP

Zend Technologies Inc., developer of the open-source PHP Web scripting language, has received investments from Intel Capital and SAP Ventures. Zend will use the funds to build an infrastructure to support PHP in the enterprise. Terms weren't disclosed.

IBM Buys Service Provider for \$182M

IBM has agreed to acquire Corio Inc., an enterprise application services provider, for \$182 million in cash. IBM said the deal is part of an effort to strengthen its application services portfolio. Corio's chief executive, George Kadifa, will continue to manage the Corio unit and will gain responsibility for IBM's application services initiative. Corio workers will become IBM employees.

PalmOne CEO to Resign Next Month

Todd Bradley will resign next month as CEO at PalmOne Inc. but will stay on in a consulting capacity until May. Bradley said he is leaving to pursue other challenges. Bradley was named CEO in October 2003, when PalmOne spun off Palm OS developer PalmSource Inc. and acquired Handspring Inc. Ed Colligan, currently PalmOne's president, will become the interim CEO.

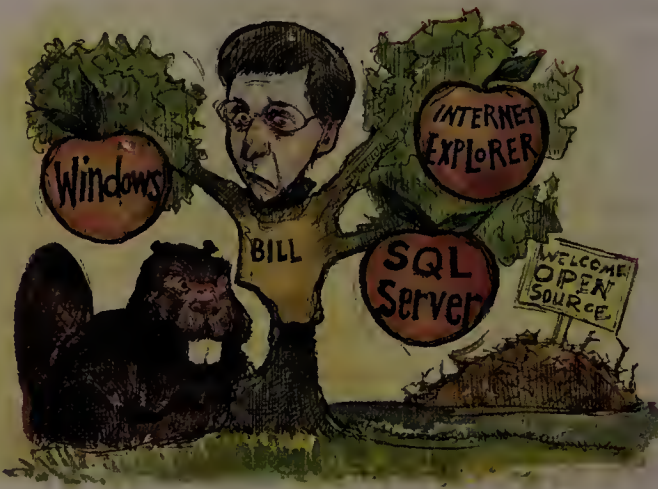
Sybase Reports Improving Revenue

Sybase Inc. reported that its revenue increased during the fourth quarter of 2004 compared with the year-earlier quarter, while net income declined. Sybase credited increased demand for mobile and data management software for the revenue increase.

SYBASE BY THE NUMBERS		
	REVENUE	PROFIT
Q4 '04	\$1.1B	\$24.1M
Q4 '03	\$0.7B	\$37.7M

ON THE MARK

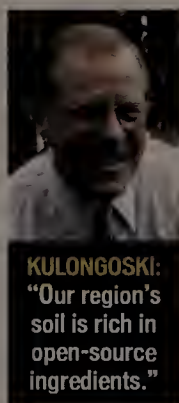
HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL



Open-Source Gnaws Its Way Into . . .

. . . the heart of Oregon's economy. And politicians in the Beaver State certainly like it. Rob Drake, the mayor of Beaverton, Ore., thinks so much of open-source software that he helped spearhead the city's \$1.2 million investment in the brand-spanking-new Open Technology Business Center (OTBC), which was unveiled last week with modest fanfare, including a speech from Gov. Ted Kulongoski. The state's chief

executive brags that the greater Portland area is already home to Open Source Development Labs Inc. (OSDL) and a growing handful of vendors that use Linux, PHP, MySQL and many other freely licensed technologies. "Our region's soil is rich in open-source ingredients," Kulongoski says, adding that he's "dedicated to making open technology a key factor in Oregon's economy." Stuart Cohen, OSDL's CEO, points out that Linus Torvalds, the inventor of Linux and the crown prince of the open-source movement, now calls Portland his home. LaVonne Reiner, executive director of the OTBC, says the facility will incubate "ventures in residence," fund individual research and house the Open Technology Executive



KULONGOSKI:
"Our region's soil is rich in open-source ingredients."

Institute. She says the latter will be a partnership with a university, which will be named within two months, to teach an open-source curriculum to business leaders, consultants and lawyers. The OTBC has already lured its first venture in residence. Ryan Lucas,

CEO of Stunt Computing LLC, says his company is abandoning Chesapeake, Va., for the open-source-friendly Pacific Northwest. Lucas is mum about what his new product will be, saying only to expect a bundle of hardware and software based on open-source technology. Not everyone is delighted with the OTBC, though. Russ Walker, northwest director at Citizens for a Sound Economy, an advocacy group affiliated with former Congress-

MATTHEW FAULKNER

men Dick Armey, Jack Kemp and other conservative Republicans, decries the city's investment in the OTBC. "It's a bad idea to let government choose winners and losers in technology. Let the market do it," Walker gripes. Some of the folks across the border in Redmond, Wash., might agree.

Clusty takes on the "big boys" . . .

. . . in the search-engine wars. If you're bewildered by endless lists of unorganized links to your search requests, give Clusty a shot. It's the brainchild of some brainy Carnegie Mellon University denizens who founded Pittsburgh-based Vivisimo Inc. According to CEO Raul Valdes-Perez, the company has been shipping its Velocity Suite enterprise-class search and categorization tools for a couple of years to the likes of the National Security Agency and the Defense Intelligence Agency. Now Vivisimo has a beta of its search engine available at www.clusty.com for nonspooks. The speedy search tool clusters results into numerous categories, making it much easier to ferret out information gems. For example, a search on "Super Bowl" yields a long list, as you'd expect, but also more than 10 groupings, such as Super Bowl history, betting and ads. In addition, Clusty includes thumbnail images from www.wikipedia.com with selected results, which breaks up pages and makes them easier to read. "It is

time to move away from disorganized lists of information," Valdes-Perez says. But can a small start-up really take on the likes of Google, Ya-

hoo, Lycos and Ask.com? Certainly, Valdes-Perez boasts. Categorization, he says, "makes us a full-featured alternative to the big boys."

Control the corporate RSS feeding frenzy . . .

. . . with Enterprise Syndication Server (ESS). Managing internal consumption of information based on the Real Simple Syndication (RSS) standard will get a bit easier later this quarter when KnowNow Inc. in Sunnyvale, Calif., releases its new software. Ron Rasmussen, KnowNow's vice president of product development, claims that by using ESS, "IT can control the RSS information accessible to employees." That may seem Draconian, even un-American, but he argues that the IT infrastructure inside large companies can become bogged down when thousands of employees subscribe at will to the hundreds of thousands of RSS feeds available online. Rasmussen says that ESS can be incorporated easily into company portals and that it integrates with Lightweight Directory Access Protocol authentication schemes, provides auditing and logging reports, and centralizes control of the RSS feeds permitted into networks. Perhaps more intriguing to IT developers, ESS lets you link corporate applications into an RSS feed so employees interested in getting dynamic data, such as reports on sales or manufacturing yields, can subscribe to information based on their roles. Rasmussen says no client code or browser plugins are necessary. Pricing has yet to be determined.

600%
Growth rate in 2004 for RSS feeds, says Syndic8.com.

200
Milliseconds needed to complete a Clusty.com category-style search.

Q 52193

What's the power behind the server platform of choice?



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Grocer Rings Up Savings With Linux Cash Registers

Hannaford nears end of POS project, says new systems boost productivity

BY THOMAS HOFFMAN
SCARBOROUGH, MAINE

HANNAFORD Brothers Co. has already received productivity and cost-avoidance windfalls from an ongoing point-of-sale system replacement project that will cost between \$10 million and \$20 million, executives at the grocer said last week.

The new Linux-based POS systems have been installed in about two-thirds of the company's 140-plus supermarkets in New England and New York. Hannaford Bros., a division of Brussels-based Delhaize Group, expects to complete the implementation of the thin-client systems by October, said CIO Bill Homa. The systems, which are supported by 12 vendors of servers, software, printers and other peripheral devices, replace 15-year-old Fujitsu Ltd. technology based on OS/2 Version 1.3, according to Homa.

The Fujitsu software is "solid as a rock," said Homa. But it has limitations because it can run only as fast as a 166-MHz Pentium processor, he said. That plus Fujitsu's decision to halt support for the OS/2-based POS system prompted the grocery chain to launch a replacement strategy in 2001.

Vendor Support Push

As part of the move to a thin-client architecture, Homa and his team hope to eventually run all 40 store applications, such as its pharmacy and video-rental systems, on a single Linux server. Right now, those applications run on a mix of mainframe, Unix and Windows servers with links to the Linux terminals installed in the stores.

One of the constraints of the

server plan, said Homa, is that Hannaford must convince its retail systems vendors, such as PDX Inc., a Fort Worth-based maker of pharmacy software, to port applications to Linux.

When Hannaford first began evaluating POS systems, "we kind of backed into Linux," Homa said. The open-source operating system ended up being the best fit for the company's intelligent POS terminal requirements.

Hannaford executives decided upfront that in checkout lanes they wanted to use so-called intelligent terminals that don't require any moving parts and don't need cooling fans. After evaluating various technologies, the grocer opted for POS terminals from Win-

cor Nixdorf Inc. that can run either Linux or Windows and POS software from Retalix Ltd. that runs on Windows servers. Homa said the terminals can continue running if servers go down.

Other retailers have deployed Linux-based POS systems, although adoption is still extremely limited, according to analysts. In August, Circuit City Stores Inc. announced plans to migrate to IBM SurePOS 300 cash registers running Linux at its 600 stores [QuickLink 48812].

At least one consultant expects the Hannaford project to be the forerunner of a boom in POS system replacement proj-

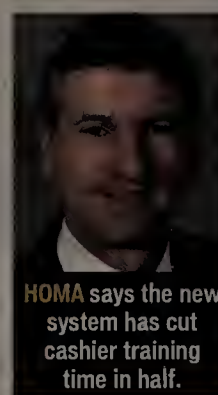
ects among retailers this year. "For years, we've been hearing that retailers were going to swap out their POS systems. This year they're doing it," said Cathy Hotka, principal at Cathy Hotka & Associates, a

retail IT consultancy in Washington.

Although retailers' existing POS systems are reliable and have long been completely paid for, today's systems are easy to learn to use, offer new features and are able to integrate with systems that support retail-

ers' customer data mining initiatives such as loyalty/rewards programs, Hotka said.

Homa said it takes just two hours to train a cashier to use Hannaford's new Retalix POS



software, half the time it took for the Fujitsu system. Plus, he said, cashiers using the Retalix system can tender money 20% faster than they could with the previous system.

"We've been able to reduce a significant amount of training time with a simpler, user-friendly interface instead of cashiers having to memorize product codes," said Natasha Velasquez, Hannaford's store-line POS support manager, who is overseeing the implementation of the POS terminals at the remaining 55 stores.

The thin-client Linux architecture has delivered other benefits. Homa estimates that it would have been 25% to 30% more expensive for Hannaford to purchase, install and support a POS system that was based on Windows or another non-open-source platform.

52237

HELPING THE HELP DESK

The Hannaford Bros. help desk can now handle twice as many end-user IT incidents with just a modest increase in staff, thanks in part to new Peregrine Systems software:

QuickLink 52236
www.computerworld.com

ADP Software Glitch Hurts Auto Body Shops

BY MARC L. SONGINI

ADP Claims Services Group has been forced into damage-control mode as it promises to reimburse some of its auto body shop customers for losses caused by errors in the software application they use to estimate car repair costs.

The Claims Services Group acknowledged in November that incorrect data was programmed into the underlying database of its ADP Shoplink claims-estimating software as part of the application's October iteration. The Claims Services Group is a subsidiary of Roseland, N.J.-based Automatic Data Processing Inc., a tax and payroll outsourcing company.

The claims estimating software, which can be run off a server or a desktop, relies on

an ADP database that can sort through information such as a given vehicle's make, style and year and produce an estimate of repair costs.

Things began going wrong last fall, when the faulty data was entered into the database, which is distributed with the application by disk to the auto body repair shops that are ADP's clients.

The company declined to comment on the error last week. But according to a statement on its Web site, an internal investigation and audit prompted by customer complaints "concluded that changes made to [paint] refinish times on the October CD weren't supported by sufficient industry data as required by our operating policies and procedures."

ADP said it immediately notified its customers, sent them updated CDs via overnight delivery and set up a team of customer service specialists to handle any related questions. In addition, although it denies any liability, ADP this month detailed on its Web site a policy for reimbursing clients.

Damage Done

"We need those programs to run our businesses," said Charles Bryant, executive director of the New Jersey Alliance of Automotive Service Providers in Neptune. His organization includes some 250 collision-repair shops that use ADP's application.

Bryant said it was never made clear just what caused the glitches, and it required "slick people" in the shops to find them and notify ADP. However, he said, by the time ADP acknowledged its errors and made corrections, "the damage was already done."

While the reimbursement plan is a good start, ADP should do more to compensate its customers, Bryant said. "It's not a closed issue," he added.

ADP client David Rush, president of D & M Auto Body Inc. in Rockaway, N.J., said the October CD generally underestimated normal paint refinish times by 12%. He ran the disk from early October until Nov. 26, when the replacement CD was issued. Based on an average month, his losses amounted to about \$7,440, he said.

Rush said he doesn't expect to be reimbursed for the losses because it would take too long to do the recalculations and rebilling.

"Most of the jobs have been paid for, and you can't call the customer and say, 'You paid me \$500, and it was really \$550,'" Rush said. "I didn't write it off yet. I'm not sure where to turn next. I can't even get an answer as to what caused it." 52248

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BRIEFS

Ford, Sprint Agree To Wireless Deal

Ford Motor Co. signed an agreement with Sprint PCS Group to buy wireless communications devices for 8,000 workers. The devices will replace office phones to provide wireless communications using Sprint's PCS Ready Link service. The move comes four months after a deal that called for SBC Communications Inc. to design, install and manage a Cisco IP telephony system for 50,000 Ford users [QuickLink 49615].

Microsoft, DOJ to Meet on Longhorn

Microsoft Corp. will meet with officials from the U.S. Department of Justice next month for the first of several briefings intended to ensure that its upcoming Windows operating system, code-named Longhorn, complies with the final judgment in the antitrust case against the software maker, according to court papers. Microsoft said complying with the ruling continues to be a priority.

SAP Reports Better Sales, Net Income

SAP AG released preliminary figures showing that its net income for the fourth quarter rose 29% compared with a year earlier, on revenue that was up 7%.

SAP BY THE NUMBERS

	REVENUE	PROFIT/LOSS
Q4 '04	\$3.1B	\$709M
Q4 '03	\$2.9B	\$549M

Rambus Adds to Patent Lawsuit

Rambus Inc. broadened its legal battle against the memory industry, filing patent lawsuits against certain manufacturers of chips based on the emerging DDR2, or Double Data Rate 2, standard. The lawsuit against Hynix Semiconductor Inc., Nanya Technology Corp., Inotera Memories Inc. and Rambus rival Infineon Technologies AG claims that the standard infringes on Rambus patents.

Users Demand Access to BI

In response, vendors update reporting, OLAP software

BY HEATHER HAVENSTEIN

SOME COMPANIES looking to deliver business intelligence software to growing numbers of end users are re-evaluating their mix of analysis and reporting tools in an effort to improve scalability and performance.

And vendors are responding to those concerns by updating reporting tools with stronger and more flexible data analysis capabilities and by boosting the performance of online analytical processing tools.

Not waiting for improved OLAP systems, the Ministry of Tourism in the Bahamas is in the first phase of a project scheduled to be completed later this year in which it will roll out Actuate Corp.'s enterprise reporting tool set to more than 400 users at hotels and regional tourist boards to boost its marketing efforts.

Previously, the ministry used an OLAP tool from Cognos Inc. without its reporting tool. The Cognos tool worked for the 25 users within the ministry itself but wouldn't have sufficed for the expanded project, said Jo Ram, chief operating officer at Actuate reseller Indusa Global in Montego Bay, Jamaica.

Users of tools from South San Francisco, Calif.-based Actuate will be able to view reports and drill down into them to get more information and do more of their own analysis, said Vincent Vanderpool-Wallace, the tourism ministry's director general.

Actuate allows companies to scale to large numbers of users because of its "bursting" technology. It controls user access to individual pages of a report based on preset parameters on what a user can see instead of creating a report for each user, said Kevin McDearis, vice president of

data and delivery at Check-Free Corp., an electronic bill payment and banking services firm in Norcross, Ga. That feature is a key reason why Check-Free stuck with Actuate following a recent re-evaluation of its needs, McDearis said.

Scalability is also an issue for enterprises using home-grown reporting mechanisms. Basic American Foods Inc. in Walnut Creek, Calif., struggled with data integration and integrity issues while using Microsoft Excel spreadsheets for more than 100 users at multiple plant sites to maintain budget data, said Sally Smedal, Basic American's treasurer and controller. "As we have grown, certainly that product is not scalable," she said.

By using reporting tools from Hyperion Solutions Corp. and doing away with spreadsheets, the company last year reduced budget preparation time by more than half while improving data integrity, Smedal said.

Traditional reporting vendors like Actuate, Information Builders Inc. and Business Objects SA, with its acquired Crystal Decisions tool, are

Different Paths

ENTERPRISE REPORTING TOOLS

■ **Emerged** when most processing was done on mainframes and have typically been focused on scaling to thousands of users.

■ **Are now evolving** to allow end users to "drill down" into data and interact with reports.

OLAP TOOLS

■ **Were developed to provide** deep analytic capabilities for power users and IT workers tasked with writing queries.

■ **Are now scaling better,** thanks to the use of techniques for speeding up calculations.

"basking in the scalability wars" as user companies look to bring BI to the masses, said Wayne Eckerson, director of research at The Data Warehousing Institute in Seattle.

From the start, enterprise reporting tools have been designed to provide reports to large volumes of users in server-based processing environments, Eckerson said. In contrast, OLAP tools were de-

signed for more complex analysis for high-end power users and require significantly more processing power.

Vendors in both camps are revamping their offerings to meet the demands of more users, with reporting vendors adding some OLAP-like capabilities for slicing and dicing data and OLAP vendors speeding up their analytics, Eckerson added.

For example, the latest version of Hyperion's Essbase OLAP tool, launched in October, "blows the socks off" OLAP scalability, Eckerson said. And MicroStrategy Inc., a longtime player in the OLAP world, added enterprise reporting to its product lineup late in 2003. This week, the company will add embedded OLAP into enterprise reports and allow users to define and refine reports over the Web.

52216

BI FOR THE MASSES

As the power of data analysis is placed in the hands of everyday workers, will the benefits of increased productivity and customer satisfaction outweigh the risks of misinterpreted data?

QuickLink 46903
www.computerworld.com

MicroStrategy Designs New BI Tools for Nontechie Users

MICROSTRATEGY INC. this week will unveil a new version of its business intelligence tool set that combines reporting, analysis and performance monitoring on a single platform.

Dubbed MicroStrategy 8, the new platform is designed to extend its capabilities to more enterprise users while lessening the demand on IT shops, said Sanju Bansal, chief operating officer at McLean, Va.-based MicroStrategy.

The new version can provide a rough report that "users can tune to their exact needs" if they know how to use programs like Microsoft PowerPoint or Excel, Bansal said.

A new Web interface allows end users to design and refine

their own reports over the Web, he added. Also new in Version 8 is support for joining data from data warehouses, data marts, operational systems and an SAP data warehouse into a single document, he added.

With MicroStrategy 8, more than 700 state government users in Tennessee will have increased flexibility for their data analysis, said Sherrie Benn, a business intelligence consultant in the state's Office of Information Resources. Benn's operation is a beta-test site for the software.

Using Version 7.5.3, Tennessee financial and human services department personnel can access only a PDF version of reports, said Benn. With the new version, "they won't have to de-

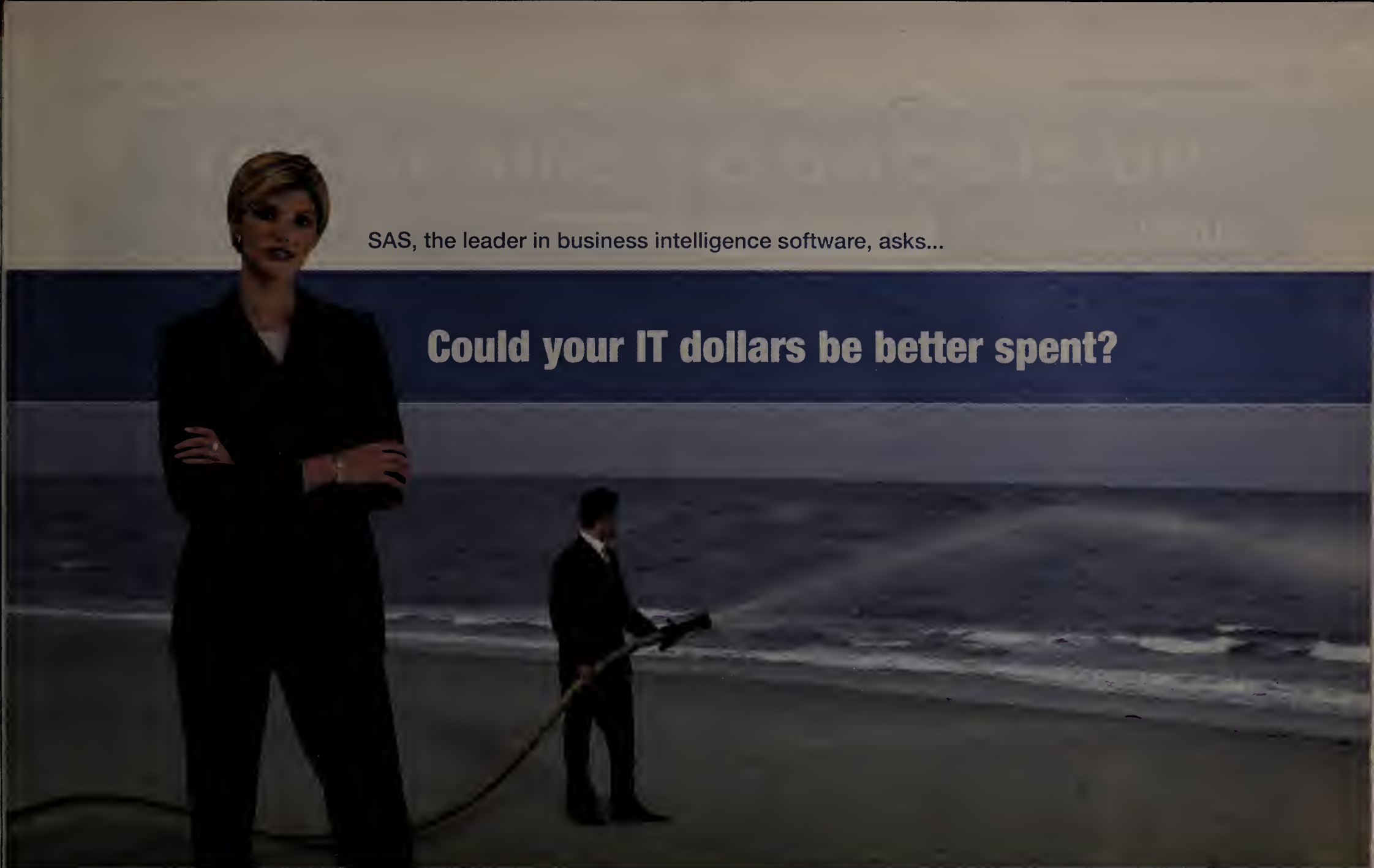
pend on anyone else for their reports," she said.

Tying together reporting and analysis in one interface can provide significant benefits to users, said Dan Vesset, an analyst at IDC. "If you want to customize a report, you can do it in the same interface. You don't have to open a new development interface," Vesset said.

While the new version does allow users to pull data from SAP AG's Business Warehouse, MicroStrategy should consider integrating its tools with other OLAP sources, such as Microsoft Analysis Services, Vesset added.

The tool set will be generally available Feb. 4.

- Heather Havenstein



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GLOBAL DISPATCHES

An International IT News Digest

France Telecom Plans To Rescue Ailing Equant

PARIS

FRANCE TELECOM SA last week said it has agreed to pay about 564 million euros (\$736 million U.S.) in cash for the 45.8% of global network operator Equant NV that it doesn't already own. The deal also would give Equant, which has posted losses for the past eight years, a \$250 million loan to help it survive what's expected to be a very difficult year.

Amsterdam-based Equant provides data communications services to companies in 220 countries and territories. Paris-based France Telecom expects that it will take at least until May to complete the deal.

The buyout would enable France Telecom to speed up its strategy of providing an integrated line of communications services, the company said. Last year, France Telecom bought back all the shares in its Wanadoo Internet access division and its Orange SA mobile phone subsidiary.

The deal comes a month after Equant ap-

pointed CEO Charles Dehelly, who is the second chief executive brought in during the past 18 months to attempt a financial turnaround.

■ PETER SAYER, IDG NEWS SERVICE

Philippine Tax Agency Tries Mobile Commerce

MANILA

THE PHILIPPINE BUREAU of Internal Revenue (BIR) this month will deploy an electronic payment system that lets business owners pay their 500-peso (\$9 U.S.) annual registration tax using their cell phone keypads.

The system uses the G-Cash service offered by Globe Telecom Inc., a Philippine vendor headquartered in Mandaluyong City. The goal is to make paying more convenient, since only 70% to 80% of the country's more than

500,000 registered business establishments pay their registration taxes on time, said BIR deputy commissioner Lilia Guillermo.

Business owners will be able to register with G-Cash and load at least 500 pesos into electronic wallets managed by the

Manila-based Land Bank of the Philippines. Once their accounts are set up, business owners can enter the amount to be paid, a personal identification number, some BIR office codes and the registered company name into their cell phones. They can then send the data to a special BIR phone number.

■ GRACE S. CLAVECILLA, COMPUTERWORLD PHILIPPINES

Consumer Privacy Group Boyotts Tesco Over RFID

AN INTERNATIONAL consumer privacy group last week launched a boycott of U.K.-based retailer Tesco PLC over its increasing use of radio frequency identification tags on individual products, such as DVDs [QuickLink 52097]. The group, called Consumers Against Supermarket Privacy Invasion and Numbering, said Tesco's plan carries the unacceptable risk that "more people will be taking home items containing spy chips." That word is used by some critics of RFID tags to describe the devices.

"Suggestions that Tesco might use this technology to track products once they have been purchased, thereby invading customers' privacy, are simply wrong. In fact, it would be illegal in Europe," a Tesco spokeswoman told the British Broadcasting Corp.

■ 52194

Compiled by Mitch Betts.

Briefly Noted

The Hong Kong government has named Howard C. Dickson to replace Allan Wong as its CIO, effective Feb. 1. Dickson was previously Canada's assistant deputy minister for information management and, before that, CIO at the Department of National Defence and Canadian Forces.

■ CHEE SING CHAN, COMPUTERWORLD HONG KONG ONLINE

Microsoft Corp. is urging Zambia's government to speed up enactment of an IT policy that will enable prosecution of software pirates. The African country currently has a law against music piracy but not software piracy.

■ MICHAEL MALAKATA, IDG NEWS SERVICE

The Dow Chemical Co. in Midland, Mich., said last week that it plans to open a new research and IT center in China. The IT portion of the center will open within 12 months and provide systems support for Dow's global operations, CIO Dave Kepler said in a press release.

Continued from page 1

Oracle

Oracle, and one is simply wary about the changes in general. The rest said they have been unaffected so far.

The loss of long-time PeopleSoft staffers was the most serious problem the users had encountered.

"We've found that the more our representative knows about us and the applications we are utilizing, the better the rep has served us," said Dave Richards, CIO and treasurer at Great Falls, Mont.-based Pacific Steel and Recycling Inc.

The company runs PeopleSoft's EnterpriseOne ERP software and has just lost its account rep — someone who had spent time at Pacific Steel's headquarters to learn about the business and the

software used, Richards said. "When a new rep comes in, we will have to start this process all over."

Facing Disruption

Richards isn't the only one facing disruption. After it lost a key PeopleSoft marketing representative at the same time that top PeopleSoft executives left, Palmer, Alaska-based Matanuska Telephone Association Inc. put a planned upgrade from PeopleSoft World to EnterpriseOne on hold, said business systems analyst Gary Riley.

The company is now "waiting for the smoke to clear and our executives to have a better comfort level," he said. "We are waiting when we need to be moving forward."

Other customers said that their future with Oracle remains in question.

Agri Beef Co. in Boise, Idaho, hasn't had much communication with Oracle during the past month, aside from a series of e-mails announcing "another farewell from another PeopleSoft friend," said Casey McMullen, director of information systems. "My inbox is full of 'Farewell, it's been nice working with you' e-mails."

The beef supplier runs Enterprise financial applications, and McMullen said PeopleSoft had sent a team in to study his business be-

“We are waiting when we need to be moving forward.”

GARY RILEY, BUSINESS SYSTEMS ANALYST, ATANUSKA TELEPHONE ASSOCIATION

fore that implementation.

"Those people worked shoulder to shoulder with us, above and beyond the call of duty to forge a long-lasting business relationship," he said. "Now those people are pretty much gone." McMullen said he isn't sure whether he will continue using Oracle to support his applications.

Oracle officials declined to comment for this story, pointing to public statements the company has already made about the layoffs.

The decimation of PeopleSoft's upper echelon has been something of an issue at Denver-based staffing company Remy Corp., a PeopleSoft Enterprise customer.

The departure of such highly placed PeopleSoft executives as President Phil Wilmington and Chief Financial Of-

ficer Kevin Parker has led to "a little bit of worry," said Andrew Albarelle, principal executive officer at Remy.

Albarelle, who is generally upbeat about the merger, is waiting to be assigned a new high-level executive sponsor from Oracle — something he expects to happen in the next month.

That customers are already feeling the pain of a personnel transition is no surprise, said David Dobrin, an analyst at Cambridge, Mass.-based consultancy B2B Analysts Inc.

With the layoffs of an estimated 52% of PeopleSoft's employees — many of them with customer-facing jobs in consulting or presales — Dobrin said he doesn't know whether Oracle can deliver on the promises of continued support to its new installed base. ■ 52241

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*Market share from Gartner Dataquest, Tape Automation Systems Market Shares, 2003, F. Yale, April 2004.

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Major Vendors Join to Support Open-Source Grid Development

Ultimate benefits will depend on deliverables, say users and analysts

BY PATRICK THIBODEAU

A decision by major enterprise vendors last week to put money and technical support behind open-source grid development was cautiously welcomed by users and analysts. Most of those interviewed said they will hold their applause until they see some results.

IBM, Sun Microsystems Inc., Hewlett-Packard Co. and Intel Corp. formed the Globus Consortium to jointly work to improve the Globus Toolkit, the open-source development project of the Chicago-based Globus Alliance. The companies' aim is to improve the tool kit's code and readiness for commercial adoption, an ef-

fort the tool kit's developers say is needed.

Getting the four companies involved in the project "is good, as long as they adhere to the open-source mentality," said Ian Penny, who is responsible for data center technology development at New York-based pharmaceutical maker Pfizer Inc. "It will encourage users to adopt it as a standards-based platform." Pfizer uses grid computing in drug research, and Penny has been active in the Globus Alliance.

Initial Optimism

"My first impression is that [the new industry group] is probably a good thing," said Bill Olson, vice president of engineering at Iron Mountain Inc. "The more stable [the Globus Toolkit] is, the more attractive it becomes."

Iron Mountain, a Boston-based data-protection firm that uses grid technology in

its database management, is interested in using the tool kit.

Ian Foster, who heads the distributed systems lab at Argonne National Laboratory in Argonne, Ill., and who led the team that developed the Globus Toolkit, said the vendors "want to see the software move forward faster than what is possible by volunteers."

Foster is also a founder of Elmhurst, Ill.-based Univa Corp., which was formed last year to develop products and services based on the Globus open-source standards. Univa is also a member of the Globus Consortium.

The consortium's "goal is to proactively address the issue of grid computing in enterprises," said Greg Nawrocki, who will lead the industry group. "Our belief is that open-source is the key to grid in the enterprise."

Initially, the consortium will develop a priority bug-

Major Grid Groups

GLOBUS ALLIANCE: Developer of the Globus Toolkit, an open-source, open-standards-based technology for grid resource monitoring, discovery, security, and operations and file management.

GLOBUS CONSORTIUM: A newly formed industry group to support Globus Toolkit.

GLOBAL GRID FORUM: The leading grid standards group and developer of the Open Grid Services Architecture.

ENTERPRISE GRID ALLIANCE: An industry group focused on enterprise grid adoption that's working on problems such as provisioning large enterprise data files and databases. Oracle Corp. is one of its members.

fixing scheme for the tool kit, and other development efforts will be detailed later. Nawrocki coordinated Globus Toolkit-based application projects at Argonne National Laboratory.

He's currently on extended leave from the lab to head the consortium.

Jonathan Eunice, an analyst at Illuminata Inc. in Nashua, N.H., said users can welcome the arrival of the Globus Consortium while remaining skeptical of its ultimate plans.

"There is no reason not to welcome an organization that is committed to further developing standards and further building enterprise computing atop vibrant standards and compatible implementations," said Eunice. However, he added, "the proof is in the pudding." Users should judge the group on the results of its efforts rather than rejoice at its formation, Eunice said.

William Fellows, an analyst at The 451 Group in New York, said the consortium might strengthen Globus as well as its open-source efforts.

Fellows said that grid users see "a need for a single set of grid standards, not multiple standards or stacks; common APIs for developers to write to; [and] standard ways of getting data into and out of grids." **Q52212**

Continued from page 1

Disk Drives

the needed drives are on back order [QuickLink 52098].

A draft report issued last week by IDC said that in last year's fourth quarter, the demand for enterprise-class hard drives exceeded supply by nearly 7%, or about 400,000 drives. IDC said the shortfall was due to a combination of the product transition cited by Clarke and an increase in purchases by hardware vendors.

"The resulting allocation conditions were not unexpected but are deeper, more broad and more prolonged than originally forecast," the Framingham, Mass.-based company said in its report.

An investigation by IDC revealed delays in server shipments by all the major system vendors except Dell Inc., which told both IDC and Computerworld that it hasn't been

EXCERPT

"The resulting allocation conditions [on disk drives] were not unexpected but are deeper, more broad and more prolonged than originally forecast."

FROM A DRAFT REPORT ISSUED BY IDC

affected. The delays primarily involve higher-end drives, specifically 15,000-rpm models with 73GB and 146GB capacities, IDC said.

On average, the standard shipment time for an enterprise server is one week, according to IDC. "That has been extended to two to three weeks average because of this," said John Buttress, an analyst at IDC. "Obviously, if it's an average of two to three weeks, some shipments are taking longer than that."

For users, "avoiding problems posed by product shortages takes homework, including analysis of commodity markets — the raw products that make up disk drives," said Gerry Bundle, purchasing manager at San Jose-based Calpine Corp., which operates power plants in 21 states.

Vendors regularly conduct such analyses, but whether they're willing to share their supply forecasts depends on the relationships they have with users, Bundle said. Companies that don't have clout with a vendor or the resources to do their own market analysis work may be at the mercy of their suppliers, he warned.

But if a company is in deep with a vendor and is buying systems, services and support, "it's a key requirement that all the critical information be shared," Bundle said. "You have to try to leverage their expertise and, frankly, request it."

EMC's leading disk supplier,

Seagate Technology LLC, is among the companies that are going through product transitions, and Tucci acknowledged that there is "probably a shortage of what the industry will demand out there in terms of disk drives" based on Fibre Channel technology. EMC has been able to work around that problem in terms of shipments to users, he said. But Tucci noted that disk drive makers "don't exactly have a lot of reasons right now to continue to drop their costs." That's putting pressure on EMC because users continue to demand lower prices on its disk arrays, he said.

David Szabados, a spokesman for Scotts Valley, Calif.-based Seagate, said a shift in IT purchasing by users from "maintenance-only mode" to spending on new projects has also led to demand for enterprise-class drives that's higher than vendors forecast.

Joel Hagberg, vice president

of marketing and business development at disk drive maker Fujitsu Computer Products of America Inc. in San Jose, agreed that demand is growing robustly at the same time that vendors like Fujitsu are moving to new products.

The shortage will continue well into 2005, Hagberg predicted. "But we're executing well in terms of qualifying our new products and pushing to improve supply to meet the increased demand," he said.

Q52223

Correction

A STORY IN the Jan. 17 issue's Knowledge Center section ("Call Centers Put on Speed Dial") incorrectly reported that Magellan Health Services Inc. had already gained the benefit of using a voice-over-IP network to balance call workloads among the clinicians in its 22 call centers nationwide. That benefit has yet to be realized.

IBM Tones Down Linux Desktop Plan

BY ROBERT MCMILLAN

More than a year after IBM Chairman and CEO Sam Palmisano challenged his company to move to the Linux desktop by the end of 2005, IBM has significantly toned down its rhetoric on the subject of open-source clients.

"We don't have anything we want to say that's definitive," said Nancy Kaplan, an IBM spokeswoman. She declined to comment on specifics of the Linux rollout. "There are people using Linux, and nobody is telling them to stop," she said.

IBM's Linux migration plans were made public in January 2004, just months after CIO Bob Greenberg formed the Open Desktop Project to facilitate the migration effort.

"Our chairman has challenged the IT organization, and indeed all of IBM, to move to a Linux-based desktop by the end of 2005," Greenberg wrote in a November 2003 memo. "This means replacing productivity, Web access and viewing tools with open-standards-based equivalents."

IBM executives said at the time that there were about 15,000 Linux desktops within the company and predicted that it would have 40,000 to 60,000 desktops in operation by the end of last year. Kaplan declined to say whether that goal has been met. "I don't know if there was ever a goal of 40,000 users," she said. "There's nothing mysterious about it; we're using Linux."

Some IBM users say that many employees using Linux Web applications that require the open-source Mozilla browser aren't getting adequate support because the internal help desk supports only the Windows-based Internet Explorer browser.

According to one IBM employee, who asked not to be identified, the company has created a Linux version of its standard desktop client, called Client for eBusiness, that includes the OpenOffice.org productivity suite, a Lotus Notes client running under

Wine Windows-emulation software and the Mozilla browser. The support problem and other issues appear to be

slowing its spread, he said.

IBM volunteers have set up an Internet relay chat channel to discuss Linux problems, but

formal help desk support is vital. "If you don't use Internet Explorer, you might not get very far with them helping you with the problem," said another IBM staffer.

The majority of IBM's Linux

users to date are technical users who can support themselves, sources said. **52188**

Peter Sayer contributed to this report. He and McMillan write for the IDG News Service.

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DON TENNANT

Disquiet. Period.

THANK YOU, HEWLETT-PACKARD. Your assistance in making me look like a bonehead is very much appreciated. But for future reference, I've found that I can do that very easily all by myself. I don't need your help.

If you read Patrick Thibodeau's excellent story in last week's issue titled "Disk-Drive Demand May Be Slowing Some Server Shipments" [QuickLink 52098], and you're a regular reader of this column, you probably know what I'm talking about. Back in September, I devoted this entire precious space to gushing over HP and how impressed I was with its candor following that high-profile ERP migration disaster. You know, the one that contributed to a quarterly financial miss that cost three HP executives their jobs and delayed shipments of Intel-based servers [QuickLink 49607].

HP faced that shipment problem head-on, and Gilles Bouchard, the company's executive vice president of global operations and CIO, went out of his way to share the lessons he learned from the whole mess with other IT professionals. No denials, no skirting the issue, no "no comment" cop-outs. It was a terrific example of how this sort of unpleasantness needs to be handled to ensure that the interests of users are best served.

That's why HP's response to our inquiries about word of a more recent problem was so disappointing. As we reported last week, an IT director in Maryland informed us that he had been told by HP that it would take more than six weeks to deliver two ProLiant servers because of a shortage of hard drives. Yet when we went through HP's PR channel to find out what was going on, we got a troubling response. HP declined to



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discuss the matter, citing the fact that it was in a "quiet period" prior to the release of its most recent financial results.

That's nonsense. Without identifying ourselves as being from *Computerworld*, we called HP customer service to inquire about the availability of a ProLiant server like the ones the IT director in Maryland had ordered.

And sure enough, we were told there was a seven-week back order for the hard drive in that model due to "an industrywide shortage."

So let's get this straight: HP customer service is free to inform anyone who picks up the phone to place an order that a shortage of certain hard drives is delaying the shipment of ProLiant servers equipped with

those drives. Meanwhile, HP's PR machine is telling the press that the company can't say anything on the subject because it's in a quiet period. We seem to have a little disconnect here.

Actually, what we have is the unfortunate circumstance of HP using the quiet-period excuse to avoid addressing an uncomfortable issue. HP went through hell last August and September to overcome the server shipment problems caused by that botched ERP migration. The last thing it needs now is a bunch of journalists asking about more delays.

Come on, HP. We didn't ask about your financial projections. We didn't ask about whether you're planning any acquisitions. We didn't ask about layoffs or resource allocations or the status of your executives. We asked about whether your users can get a ProLiant server with a certain hard drive. Hiding behind the quiet-period screen makes you look even more foolish than it does those of us who have commended you for your transparency. And that's likely to be disquieting for your users. ☎ 52181

Don Tennant



DAVID MOSCHELLA

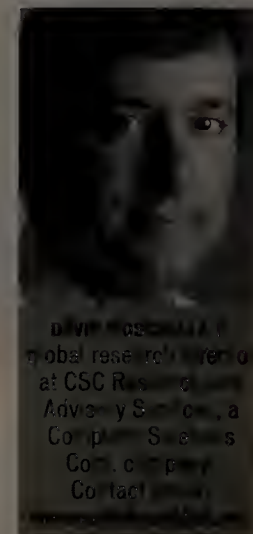
CES Shows Consumers In Charge

LIKE MANY OF YOU, I've attended more Comdex trade shows than were probably necessary. And, like many of you, until a few weeks ago, I'd never traveled to Las Vegas to check out the annual Consumer Electronics Show. While the CES has become increasingly tempting in recent years, it always seemed too far removed from the "real" issues to be justifiable for those of us focused on enterprise computing.

Perhaps I was wrong all along, but I got more out of this year's CES than I would have imagined. There's no better place to see how the energies of the IT business have shifted away from corporate IT and why the consumer market has become the main focus of computer industry innovation. Comdex is struggling to survive, and the CES is now the main speaking platform for IT leaders such as Bill Gates, Craig Barrett and Carly Fiorina — even if they did look painfully out of place yukking it up with Conan O'Brien, Steven Tyler and Vanessa Carlton.

Looking back, it's easy enough to understand why this shift occurred. Word processing, spreadsheets and databases are fundamentally much easier for computers to handle than audio and video. Thus, the computers and networks of the 1980s and '90s could effectively manipulate business information, but handling sound and images required improvements in storage, processors and networks. Contrary to our enterprise instincts, consumer applications are in many ways the high end of the IT marketplace today.

The consumer market is only now reaching its takeoff period, equivalent to the early stages of the business PC market. Things such as MP3 players, digital recorders, integrated PC/



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stereo/TV systems, digital cameras, large displays, Bluetooth headsets, portable game players and all of the supporting networks and software should be seen as the driving applications of this new phase of IT industry expansion. Each capability opens up whole new fields of opportunity.

An important consequence of this is that the technologies consumers use at home will evolve more quickly and in many ways will surpass those used in the office. It's easy to imagine that knowledge workers of the not-too-distant future might well prefer to work in a home office that features a large plasma screen, voice and video instant messaging, free long-distance voice-over-IP telephony, a 40Mbit/sec. Internet connection, surround-sound audio, and a wireless LAN that works in the kitchen, on the sofa or in the backyard. Who could blame them, especially when company offices increasingly feature ever more anonymous and dreary cubicles?

These changes in the balance of IT industry leadership will present many challenges for corporate IT, as well as opportunities. Perhaps the biggest opportunity stems from the fact that employees are now willing to spend their own money on this stuff. Their IT budgets will certainly continue to grow much faster than yours.

Surely, IT organizations should try to find ways to support company employees as they invest in and expand the IT infrastructure of the future. Think security, firewalls, antispyware and backup systems. Increasingly, every home will become its own little IT operation, and IT organizations are well positioned to steer these efforts toward things that benefit both employees and the companies they serve. **52082**

PIMM FOX

Hazardous Rail Problem Can Be Fixed

THE BUSH administration, we all know, has deemed it necessary to fight terrorism by invading Iraq, deposing Saddam Hussein and hunting for his weapons of mass destruction. The wisdom of all this is endlessly debated, but the fact is that

terrorists could find a cornucopia of dangerous materials right in America's city centers.

Just check out your local rail yard. Shipments of dangerous chemicals routinely pass through major U.S. cities unnoticed, unguarded and undocumented.

Mayors of major cities have been lobbying the White House for at least three years to require railroad companies to inform local governments of any hazardous material shipments that travel through their regions. The White House's answer has been either to make no comment or to give only a fuzzy response that doesn't address the real concerns of these elected officials.

Chlorine, which is routinely transported in railroad tank cars, is one of the most toxic chemicals on earth and is a hazard to people and the environment. Accidental derailments involving chlorine-laden rail cars are extremely dangerous, capable of killing anyone in the area. Deliberate derailments designed to maximize casualties in heavily populated neighborhoods could be worse. The railroad companies' stance is that ignorance is preferable to knowl-



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edge; they say that giving information about their shipments to local officials would tip off terrorists.

How difficult would it be to put together a system to track and monitor the movements and inventory of hazardous materials? The U.S. Department of Homeland Security is ideally situated to do this. It could take a lesson from state governments, which

seem to have little trouble tracking vehicles when they go through toll-booths. That same simple technology could help local governments keep tabs on rail cars that they've been told contain hazardous materials.

But such a project would require money (the fiscal 2005 budget for the agency is actually lower than it was in 2004) and action. At the annual U.S. Conference of Mayors confab in Washington just before the Bush inauguration, the mayors decried the reduction in funds for homeland security.

The new budget calls for \$1.1 billion to go to first-responder grants, compared with \$1.7 billion in fiscal 2004. Homeland security grants for fire-fighting and law enforcement have also been cut, as have the monies for

urban search and rescue operations.

To be fair, there is more money available this year for baggage screening and transit security. And the new spending bill no longer requires that cities spend the money they receive for homeland security within three days of receipt.

But informing community leaders when toxic materials are transported through a neighborhood or in a city tunnel seems like a no-brainer, despite the concern expressed by the railroad companies. Most rail yards are only lightly policed, and railroad companies are supposed to let local governments know if they're storing toxic chemicals overnight. So why doesn't the White House weigh in and support the mayors on an issue of local security?

There is a low-cost solution to this problem, and the fact is that the population is better off when municipal governments know the terrorist risk factors within their jurisdictions. But instead, tanker rail cars continue to make their way through highly populated areas, and local governments haven't got a clue. **52142**

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READERS' LETTERS

Readers Raise Objections to Outsourcing

I'M BUMMED that Don Tennant doesn't understand the nature of the H-1B visa ["A Thanksgiving Rebuttal," QuickLink 51029]. If it truly were about hiring qualified workers rather than flooding the market with cheap labor, it wouldn't be written to give the sponsoring employer the power of a feudal lord. I'm bummed that Tennant chooses to present the concerns of American workers as xenophobia. Who's going to pursue a career in engineering if they can be replaced by a serf? And finally, I'm bummed that Tennant chooses to ignore widespread unemployment in tech. I wish this were a simple competition based on qualifications and experience, but jobs are leaving this country in pursuit of lower salaries, not better skills.

Mike Gollub
Mountain View, Calif.

OBJECT TO Don Tennant's suggestion that jobs should go "to

the best candidate, regardless of nationality." The U.S. economy is the property of the American people and exists for their benefit, not for the benefit of the whole world.

Ian Fletcher
American Engineering Association, Washington

DON TENNANT overlooks that H-1Bs aren't always the most qualified; employers often force qualified Americans to train the H-1Bs before firing them. He overlooks that the majority of positions filled by H-1Bs could easily be filled by U.S. workers. He overlooks that flooding 85,000 workers per year into a stagnant job market will cause qualified U.S. workers to be displaced. He offers no explanation of why the free market within the U.S. cannot supply enough U.S. tech workers without immigration. He overlooks that the CEO of HP lobbied for an increase of the H-1B

cap even as she was filing an SEC notice of layoffs. The Programmers Guild advocates that H-1B visas be granted only after a job is advertised and an attempt is made to fill it with a U.S. worker. Why would *Computerworld* oppose that?

Kim Berry
President, Programmers Guild, Sacramento

Spreadsheet Utility

The article "Compliance Pressures Prod IT to Limit Use of Spreadsheets" [QuickLink 51389] is missing an important point. One of the most significant reasons why people use spreadsheets to analyze financial or operating data is that the underlying databases contain known errors. Why? Because the database keepers periodically lock the data and then publish the results, correcting any known errors in later periods.

For many people trying to run their businesses in real time, the

bad data is unacceptable. So they make corrections to get the true picture of what is actually happening at a detailed level. The small errors are not significant from the big-picture point of view, but they are critical from a daily operating perspective. Until someone can figure out how to allow the official and the "corrected" databases to coexist, spreadsheets will be with us.

Chip Ellis
Santa Clara, Calif.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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An Eye on Your Apps

More and more companies are turning to application monitoring software to help ensure that their critical systems stay up and running around the clock. **Page 26**



FUTURE WATCH Simulating Fallujah

Preparing troops for urban combat like these soldiers encountered in Fallujah is one of the military's most difficult training challenges. But high-tech aids like ultrafast graphics engines and intelligent agents are making battle simulations frighteningly realistic. **Page 28**

OPINION Kill Your Data

Robert L. Mitchell offers practical advice on how to make sure erased data on retired computers stays out of reach from all but the most determined intruders. **Page 32**

Interoperable electronic health records promise to streamline health care delivery, improve quality and help contain costs. But financing, a lack of standards and the scope of implementation stand in the way.

By Kym Gilhooly

FOR AN INDUSTRY that depends on highly sophisticated clinical technologies, health care lags surprisingly in leveraging IT to streamline patient data. The protracted paper trails created by patients' interactions with various health care entities don't provide a meaningful, consolidated view of an individual's health history. This lack of data integration can result in diagnostic and medication errors and duplicative tests that can dramatically raise the cost of health care and compromise patient safety.

These issues are driving a concentrated push toward the adoption of interoperable electronic health records. Ideally, EHRs would be real-time, workflow-enabled records that support computerized physician order entry and incorporate data from clinical systems. They could alert clinicians to potential diagnostic errors. They could incorporate data on public health surveillance, research and protocols, inte-

grate with back-end accounting and billing systems, and get patients involved in their own health care through portals and other mechanisms. Through interoperability standards, EHRs could incorporate data from any health care entity with which a patient interacts and be accessible through a range of clients.

The potential of interoperable EHRs to improve the quality of health care is considerable, as are the savings they could deliver — as much as \$400 billion annually. With that in mind, President Bush issued an executive order last April calling for the broad adoption of interoperable EHRs by 2014. He also appointed Dr. David J. Brailer to the new position of national coordinator for health information technology.

On the heels of these announcements, however, came questions. What, exactly, makes up an EHR? What will constitute the proposed National Health Information Network (NHIN) that would allow EHRs to interoper-

ate? And who will finance such a massive undertaking?

"When I read the popular literature or even listen to President Bush, there's this notion that we buy this electronic health record and slap it in and we're done," says Rick Skinner, CIO at Seattle-based Providence Health System, which is undertaking an IT standardization effort in its network of hospitals. "But an EHR is a system of hundreds if not thousands of building blocks, all lashed together to provide a comprehensive information set around a person and their health. ... I don't know anybody that can say they have a complete EHR."

Last year, Brailer's office issued a request for information (RFI) for developing the infrastructure that would enable secure EHR interoperability and other e-health initiatives, with responses due this month. Though the specifics of the NHIN architecture have yet to be defined, experts say concerns about privacy and other issues have the govern-

RX

For Better Health Care



Driving the Push for EHRs

In 2004, the Medical Records Institute surveyed employees at 436 health care organizations about the reasons they favored EHRs. The following figures compare the responses of IT staff with those of medical staff.

Motivations	IT managers/ professionals	Physicians and nurses
The need to improve clinical processes or workflow efficiency	86.6%	84.9%
The need to improve quality of care	82.1%	87.4%
The need to share patient record information among health care practitioners and professionals	89.1%	70.6%
The need to reduce medical errors (improve patient safety)	81.1%	73.1%
The need to improve clinical data capture	72.6%	67.2%
The need to improve clinical documentation to support appropriate billing service levels	66.7%	74.8%
The need to provide access to patient records at remote locations	67.2%	63.0%
The need to facilitate clinical decision support	69.2%	57.1%
The need to meet the requirements of legal, regulatory or accreditation standards	54.2%	54.6%
The requirement to contain or reduce health care delivery costs	50.2%	53.8%
The need to establish a more efficient and effective information infrastructure as a competitive advantage	46.8%	54.6%
Other	5.5%	4.2%
Total respondents	201	119
Margin of error	+/- 6.9%	+/- 9.0%

ment pushing for a decentralized, federated architecture that doesn't require a centralized repository for health data or universal patient IDs. Instead, health care organizations will have to adopt standards to allow interoperability among institutions storing the data that's in individual health records.

"In the U.S., privacy concerns are one of the shapers of [EHRs]," says Gartner Inc. analyst Wes Rishel. "If you look at Brailer's RFI... it's clearly supportive of interoperability as opposed to a consolidated health information system where all data is collected.... Fear is driving the technology in a direction that technologists would rather it not go. They'd rather have a centralized repository because it's easier to have good service-level agreements, response time and 24/7 availability of data."

Private-Sector Role

While the U.S. Department of Health and Human Services is working to establish standards for sharing health data among federal agencies, it expects the private sector to play a major role in drawing the road map for EHR adoption and interoperability.

Health Level Seven Inc. (HL7) and other organizations are defining enterprise interface, authentication, clinical terminology, coding and other standards. The Commission for Certification of Health Information Technology

is working to specify required functionality for EHRs. Health IT vendors are beginning to provide standards-based suites that will ease enterprise integration, though the multitude of products for outpatient physician practices remains an implementation challenge.

Meanwhile, many health care providers are making significant progress toward EHR adoption. For instance, Sutter Health in Sacramento has committed to deploying an EHR system by 2006 that will connect 26 hospitals, more than 5,000 physicians and millions of patients in Northern California. One of the steps toward this goal is a move away from a traditional, best-of-breed approach to Sutter's systems and toward standardization on systems from Epic Systems Corp. in Madison, Wis., says CIO John Hummel. Epic already houses Sutter's Ambulatory Electronic Record and offers integrated inpatient/outpatient software.

"Our interface department builds over 800 interfaces a year to integrate all our vendors. By the end of 2006, we'll have a lot of systems running in Epic, but we'll still have applications from other vendors that we'll need to interface to, so we'll [be enforcing] XML, SOAP and the HL7 transaction stuff we already do through our [interface] engine," says Hummel.

In addition to the EHR work it has already completed — which includes rolling out EHR access to patients in

the Palo Alto area — Sutter's e-health initiatives include prescription bar coding and electronic intensive-care-unit monitoring. For the throughput needed to share the data that such systems demand, Sutter has moved from a frame-relay network to Asynchronous Transfer Mode Multiprotocol Label Switching. And to streamline patient identification, Sutter has chosen a master patient index product from Initiate Systems Inc. in Chicago.

Providence Health is introducing components into various provider communities and is trying to standardize on products from McKesson Corp. Although Providence Health can control deployment schedules in the hospitals and the physician practices it operates, matters are complicated by physicians it works with but doesn't employ. Still, Skinner says, "from a decision-support standpoint, there's no question that we've greatly improved our practice because of these EHRs."

Many hope that work being done through regional health information organizations (RHIO) — competitive providers and payers within a region that have chosen to share data to improve health care delivery — will serve as a model for the NHIN.

Members of the Central Appalachia Health Improvement Partnership began talking about sharing clinical data two years ago, says Richard Eshbach, CIO and assistant vice president at Johnson City, Tenn.-based Mountain States Health Alliance Inc., a network of hospitals and physician practices and a member of the RHIO. The partnership is using a small federal planning grant and other funds to develop a plan for technology adoption, governance and collaboration, which it expects to complete early this year.

Mountain States Health Alliance has committed \$38 million over five years toward longitudinal EHR implementation, which includes re-engineering processes, integrating databases, defining metrics and standardizing on Soarian products from Siemens Medical Solutions Health Services Corp. in Malvern, Pa. Eshbach calls the project "daunting but exciting."

"More [health care entities] are committing to EHRs every year," he says. "In five years, if you haven't taken steps, you're going to be way behind the pack and at a huge competitive disadvantage in terms of quality and operational efficiency." **51989**

Gilhooly is a freelance writer in Falmouth, Maine. You can reach her at kymg@maine.rr.com.

Eat Your Carrots (And Sticks)

Interoperable EHRs will be a pricey proposition, some estimates say implementing provider EHRs could add \$10 billion to \$12 billion to annual health care IT spending. Though large provider networks may have the financial wherewithal to implement EHRs, there are scads of small, independent physician practices that need to be incorporated into the infrastructure. For many, deploying electronic records can be cost-prohibitive.

"[Hospitals] will bite the bullet to do it, but the bulk of patient information is not generated through hospitalization; it's through physician offices, and they don't like to spend money on technology. Any technology that requires them to spend more time on it and less on patients means less money," says Brian Duggan, an analyst at Health Care Informatics in Charlotte, N.C.

Many believe that payers — the Centers for Medicare and Medicaid Services and large commercial health insurers — stand to gain the most from the efficiencies of EHRs, so they should provide financial incentives. "If payers really want to see the quality improvements and the cost reductions through efficiency gains that can come from [EHRs], then they have to provide some incentives," says Gartner analyst Wes Rishel. Models could include pay for performance, or bonuses for adopting certified EHR products and reduced payments for failure to do so.

"If [payers] are going to invest money in EHR adoption, they want to target that money where it does some good," Rishel adds. "They don't want to see a physician using an Excel spreadsheet to enter a patient's name and diagnosis and then applying for [EHR adoption] incentives."

As part of its effort to create a statewide network, the Massachusetts eHealth Collaborative, a nonprofit collective supported by Massachusetts, will explore reimbursement strategies. Robert Mandel, vice president of eHealth at Blue Cross and Blue Shield of Massachusetts in Boston. Blue Cross and Blue Shield has committed \$50 million to seed pilot projects that will deploy EHRs and decision-support tools, as well as develop an infrastructure for interoperability with three provider communities. The collective has issued a request for applications and will announce its selections in March.

Though he says the goal is to improve the quality of health care, Mandel acknowledges that financial incentives for adopting EHRs are a key consideration and will be an unanswered question.

"If payers end up receiving 70% of the [financial] benefits, it's incumbent on them to contribute that income to make physicians part of the sustainability. If providers or physicians own the majority, they should invest on their own," Mandel says. "We're very conscious of the fact that there needs to be some model to address how benefits [quality and costs] are allocated."

—Amy Gilhooly

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APPLICATION MONITORING SOFTWARE IS BECOMING A CRITICAL PART OF MANY ORGANIZATIONS' SYSTEMS MANAGEMENT PORTFOLIOS. BY SUE HILDRETH

IT'S MIDNIGHT on the campus of Wayne State University in Detroit, but many students and faculty members are still at work, entering test grades, uploading notes, registering for classes or filling out financial aid forms using the university's online systems. John Camp, Wayne State's CIO, says it's critical that students and staffers be able to complete their tasks unhindered by sluggish Web servers or database bottlenecks.

Access to university systems is so important, in fact, that Wayne State recently installed the Vantage application monitoring tool from Compuware Corp. to sound an alert should any systems falter.

"It's strategically important that we make it convenient for people to register for classes, check grades and interact with professors," explains Camp, noting that students, like everyone else, expect round-the-clock access to online services such as e-mail and financial accounts, as well as their class notes and other university-provided systems.

"The drive toward self-service applications over the Internet has changed everything," Camp says. "People have very high expectations of availability now."

These days, there's virtually no business process that isn't automated by software, be it payroll, purchasing, inventory management, customer service or any of thousands of other daily activities. The increasing reliance on computers to conduct critical business transactions has motivated more organizations to invest in application monitoring and management technology, in addition to the traditional network- and hardware-monitoring products they already own.

Another factor is the increasing complexity of distributed applications. This interdependence of applications makes it more difficult to identify problems and often leads to finger-pointing between IT departments and outside vendors.

Henry Yiin, manager of network administration at CDC IXIS North America Inc., the U.S. arm of international banking firm CDC IXIS, says most people blame the network when something goes wrong. So he

relies on Network Physics Inc.'s NP-1000 appliance to help pinpoint the actual source of failure in application performance.

"Two or three times, we've had a major server outage, and [the NP-1000] provided evidence that it wasn't the network's problem," says Yiin. The NP-1000 monitors trading applications and the company's Exchange e-mail server. A separate product, BMC Software Inc.'s Patrol, keeps an eye on the database.

Gartner Inc. analyst Laurie Wurster estimates that worldwide sales of application monitoring and management tools currently total \$484 million annually. She has identified at least 58 vendors of application monitoring and/or management products. Wurster's research shows that sales of the tools grew by 30.7% from 2002 to 2003. "We're starting to see spending on things that will increase productivity, decrease downtime and make an organization run better for less," she says.

One way such tools improve productivity is by enabling less-technical employees to troubleshoot problems — a boon for those lone database administrators or ERP experts who are tired of being on call all the time.

For instance, Shivaji Huttler, database manager for the Boise, Idaho, municipal government, replaced his collection of homegrown diagnostic scripts with BMC's Patrol for PeopleSoft to enable other IT employees to troubleshoot the city's PeopleSoft applications.

"It puts all the information in one place and makes it easy to drill down into the problem," he explains. "So people at the help desk and other IT managers can see at a glance the root cause of a problem."

Patrol was particularly useful when Boise migrated from PeopleSoft 7.5 to 8.0 and payroll processing slowed to a crawl. Patrol helped Huttler quickly identify the bottleneck. "I would have gotten to the root cause on my own, but with Patrol, I can do it in seconds," he says.

WHERE'S MY E-MAIL?

The traditional assumption in monitoring products is that if the server is up and the application is responding,



"The drive toward self-service applications over the Internet has changed everything. People have very high expectations of availability now," says JOHN CAMP, CIO at Wayne State.

AN EYE ON YOUR APPS

then everything is fine. In recent years, however, IT workers have come to realize that problems are often the result of software glitches, not necessarily the server or network hardware.

"Monitoring a server doesn't necessarily tell you if everything is fine. It may be running at 25% CPU utilization, but users are suffering a 5-second delay in response time," says Gartner analyst Cameron Haight.

Because server monitoring alone won't catch every problem, many tools now track user transactions from beginning to end. On an e-commerce site, a tool may run a script that mimics a user logging in, selecting a product and paying for it. It checks that all the steps are completed correctly.

Marc Rieger, consulting and systems manager at HypoVereinsbank AG in Munich, says he appreciates the end-user view that Segue Software Inc.'s SilkCentral Performance Manager provides through screen captures of errors. "I can see what was on the screen when the error occurred. It's a root-cause-analysis function, which makes things easier."

ACTIVE VS. PASSIVE

Some monitoring products do active monitoring, which involves constantly testing the application with synthetic user transactions, while others do passive monitoring, meaning they alert administrators only when an actual transaction fails. Some tools do both.

Sorin Fiscu, a project manager at Berkshire Life Insurance Company of America, a subsidiary of The Guardian Life Insurance Company of America, chose Empirix Inc.'s OneSight tool specifically for its active monitoring capabilities. He has set it to monitor a handful of critical user transactions. "If it finds a problem, I am — hopefully — alerted before the users are," he says.

Towers Perrin, a human resources consulting and management firm, uses Mercury Interactive Corp.'s performance management software for active monitoring and TeaLeaf Technology Inc.'s RealiTea for passive monitoring.

Michael Boyer, Towers Perrin's director of enterprise systems and data management, says he generally prefers the passive monitoring approach because it doesn't require updating of synthetic use-case scripts. Also, he says monitoring actual transactions gives him a more accurate picture of what's happening. "Only by watching all of the activities that real users conduct can you know for certain that your applications are performing the way they should," says Boyer.

MAPPING AIDS MONITORING

As IT infrastructures become more complex, it's easy to forget which systems interact with one another, or even which applications are running in different departments. A map can help IT managers find their way through their mazes of systems. And that's why some application management vendors also offer application-mapping software. According to David Pinkus, senior director of software at Phoenix-

based Apollo Group Inc., which owns the University of Phoenix, application mapping is indispensable for finding hidden applications or code changes that might be causing problems.

"Application mapping gives you a document of your production environment," he explains. "It automatically interrogates every application in your environment, as well as hardware, and gives you a map of everything that's out there."

Pinkus uses Mercury Interactive's Application Mapping tool to keep tabs on changes to

the University of Phoenix's IT infrastructure. It also helps him compare his test environment to the production environment, so he can ensure that new software gets tested accurately.

Pinkus also says application mapping could be critical for compliance with the Sarbanes-Oxley Act, which governs the way public companies must handle financial records and systems. "Without an automated discovery tool, I honestly don't know how you can demonstrate to the auditors that you have a good handle on everything in your environment," he says.

— Sue Hildreth

AGENTS VS. AGENTLESS

Some tools install agents on the monitored system to collect data. Others use an agentless approach that involves repeatedly contacting the application for updates. Alex Beardsley, IT monitoring manager at Navitaire Inc., an application service provider that provides reservations software to the airline industry, says both have pros and cons.

"There may be more talk over the network [with agentless technology] if you're going for heavy application analysis," he says. But for his environment, Beardsley prefers the agentless approach of Mercury Interactive's SiteScope because it requires less maintenance and consumes fewer CPU resources. "You don't have bulky agents everywhere, all of which have to be maintained and upgraded," he says.

Steven Lee, senior consultant at Tembec Inc., a forest products manufacturing company in Montreal, chose the agent-based approach of Heroix Corp.'s Heroix eQ Management Suite. "For us, the agent was important. A lot of products were server-centric, sending queries across the wire. We didn't want to transmit passwords or use heavy encryption," Lee says.

Agents tend to gather more in-depth information, says Yiin. "You need agents if you want to collect very granular system information," he explains.

A TOOL FOR EVERY TASK

Of course, a basic criterion for selecting an application monitoring product is support for the operating systems and applications that it must interact with. Tembec needed a tool to work with Oracle Corp. and Citrix Systems Inc. applications, as well as the VMS operating system. Towers Perrin wanted support for Unix, Oracle, Windows and legacy mainframe systems but found that many products supported only Windows, according to Boyer.

On the other hand, some companies want a tool that specializes in a single

system or application. Both multi-vendor and single-vendor support have trade-offs, notes Gartner's Haight.

"The best-of-breed approach gives you better domain knowledge, which gives you better time to value," says Haight. "The rub is that at some point you may need to integrate it with the rest of your monitoring and management infrastructure."

Towers Perrin needed integration with reporting applications and archival software. "We made sure that

it didn't use a proprietary data engine, but one based on Oracle, DB2 or SQL Server, and also that it could do data management — either through proprietary mechanisms or support for third-party tools," says Boyer.

Diagnostics or other problem-identification features may also be required. For example, Wily Technology Inc.'s Introscope Transaction Tracer keeps a list of all transactions that exceeded a performance threshold, as well as a component-level breakdown of each. Other vendors, such as BMC, Segue and Mercury Interactive, also provide some form of diagnostics.

Just having a log of system events at the time of failure can be helpful. OptionsXpress Inc., an online brokerage in Chicago, relies on Identify Software Ltd.'s AppSight Black Box tool to find errors when an application fails. "It takes a snapshot of the event. We can walk through the steps the user was doing," explains Vlad Karpel, executive vice president of IT at OptionsXpress.

The choice of a monitoring tool depends on internal technical factors, but it should also be based on business requirements, such as which applications are so critical that they must be monitored and at what level of sophistication.

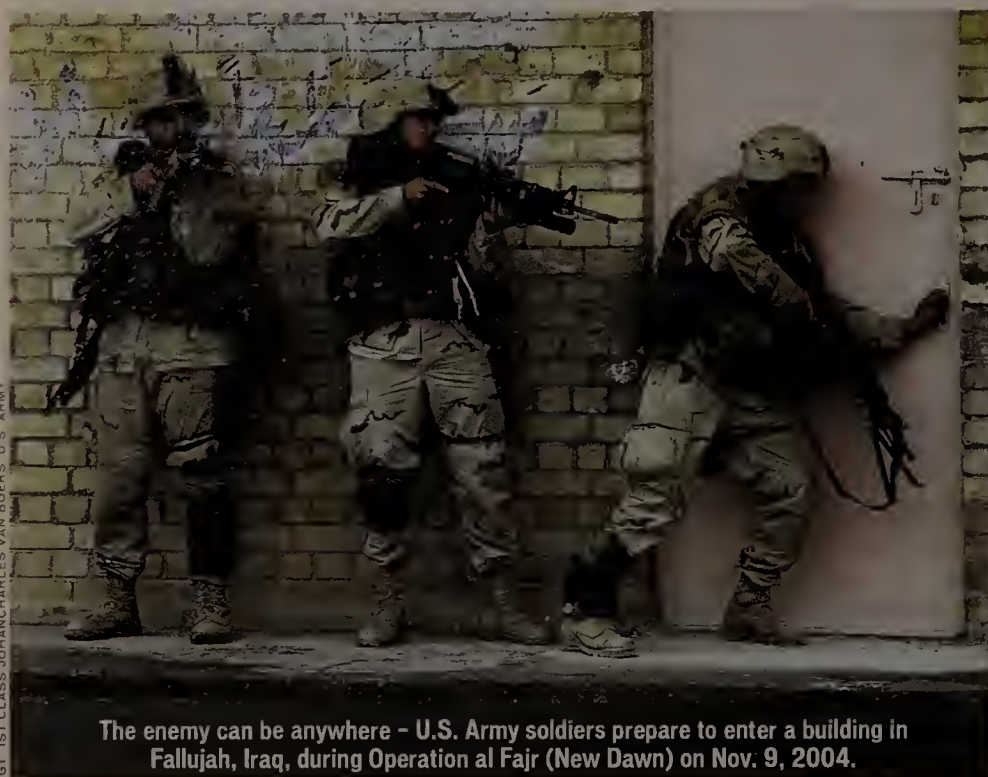
As Camp points out, Wayne State purchased a monitoring tool because of the importance of keeping the university's systems available around the clock. "It's not about the tool, but what we're trying to achieve, which is making it easy to do business with us," he says. "When we moved our systems to the Web, we knew that people would expect them to be always available. It's not like the mainframe days, when a system might be down for hours and nobody minded. We're in a different world now: exciting, but more challenging to manage." **51995**

Hildreth is a freelance writer in Waltham, Mass. She can be reached at Sue.Hildreth@comcast.net.

WHAT'S IN THE BOX?

The following are the major features you may find in an application monitoring and management package:

- Proactive (synthetic) and/or real-time monitoring
- Playback of synthetic/scripted transactions for verification
- Agent or agentless monitoring
- Management console for displaying alerts and performance data
- Interfaces to other management system consoles
- Dashboard views for different IT roles (e.g., database administrator, business manager, PeopleSoft administrator)
- Modules for specific applications or operating systems
- Support for service-level agreements — the ability to track performance against preset levels
- Reporting capabilities
- Integration with (or ability to export to) other reporting packages
- Automatic correction; some packages may be configured to make adjustments to a system in response to specific alerts
- Root-cause analysis of problems
- Logging of transactions/events for troubleshooting or historical analysis



The enemy can be anywhere — U.S. Army soldiers prepare to enter a building in Fallujah, Iraq, during Operation al Fajr (New Dawn) on Nov. 9, 2004.

SIMULATING

Fallujah

GRAPHICS ENGINES, SUPERCOMPUTERS AND REAL GUNPOWDER. BY DAN VERTON

WHEN U.S. MARINE CORPS and Army units launched their assault on Nov. 8 against insurgents in the Iraqi city of Fallujah, the world learned what military historians have known for centuries: Urban conflict is among the most dangerous and deadly forms of warfare.

The enemy can be anywhere — behind any door or any window, on any rooftop or around any corner. It's the uncertainty and the 360-degree nature of the urban battle that not only makes it a dangerous and deadly endeavor, but also one of the most stressful of military operations.

That raises the question: How do you create a training environment that replicates the stress and uncertainty of such operations? The answer: Take

cutting-edge IT systems and graphics engines and integrate them with traditional explosives and fireworks, and you have a self-contained, fully automated and safe urban-warfare training simulation, complete with the sights and sounds of real car bombs, mortar attacks and snipers.

The military is beginning to use the techniques and technologies that the entertainment industry has already perfected, says retired Air Force Maj. Gen. Lee Downer. Now a consultant at Gestalt LLC in King of Prussia, Pa., Downer was the senior U.S. Air Force officer responsible for air combat training and managed the service's effort to Web-enable cockpit simulators across the country.

"That made fighter pilots really feel like they were in war," says Downer.

FUTURE WATCH

"They probably get harder work in the simulator than when they go into combat. The idea now is to translate that capability to the ground forces."

Advances in graphics engines and supercomputers promise to fundamentally transform military training. "In the last few years, PC graphics cards have advanced to capabilities beyond expensive simulation engines," says Paul Debevec, a filmmaker at the University of Southern California's Institute for Creative Technologies, a research center in Marina del Rey.

Programmers are only beginning to take advantage of their capabilities, he adds. "In particular, the cards now allow for arbitrary floating-point calculations to be performed at each pixel and vertex of a model, and the frame buffers have sufficient bit depth to represent the full range of light seen in the real world, from deep shadows to blinding sun," he explains. "We will soon see real-time 3-D models where light reflects off of surfaces in the same complex ways that it does in the real world and where we will have enough polygons to represent even virtual humans realistically. Over the next 10 years, the speed and parallelism of graphics cards will increase to the point that the complex inter-reflections of light between the sky and walls and ground and clothing will be simulated in real time."

And research is now focusing on creating artificially intelligent virtual characters that can interact with humans using natural language. The characters will understand the situations they're in. These characters will be able to act as members of the local populace — both friendly and hostile — and as virtual members of the mission team.

Unlike the characters in most of today's simulations, these characters won't be following a script. Instead, they'll use reasoning to determine what to do in a given situation. For

example, a simulated character might be able to react unpredictably to a soldier commanding him to put his hands up or to drop his weapon. This will make characters' behavior more realistic, and it will make their development easier in the long run because it won't be necessary to create scripts that anticipate all possible action sequences.

Ground forces in Iraq are using PC-based training systems and mobile facilities to prepare for everything from convoy duty to urban operations. But Julia Loughran, president of Vienna, Va.-based ThoughtLink Inc., sees technology development taking simulation and training well beyond the PC.

"Technology will . . . make simulation something that will be available to us anywhere, anytime," she says. "This means simulations will be part of our everyday life — on PDAs, cell phones, the Internet and at kiosks. The lines of entertainment versus education and training for the military and also every other career path will begin to blur."

Realism Gets More Real

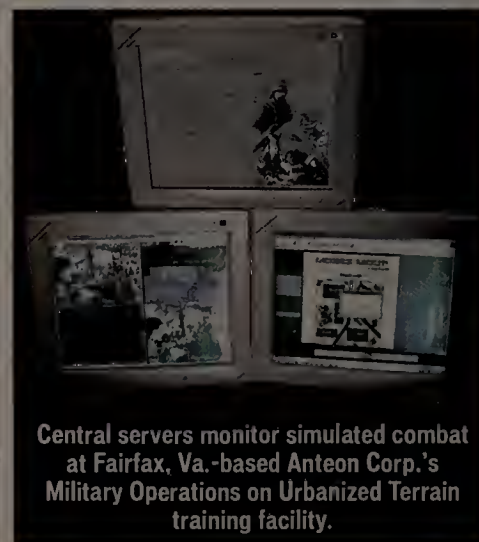
Dare Westmorland is senior vice president of Titan Dynamics Systems Inc., a company in Marshall, Texas, that has melded real-world explosives and fireworks with IT to create a controlled training environment that gives soldiers the sounds, sights and smells of the real battlefield.

Titan's computer-controlled products are being used at Fort Knox for convoy training. "We've combined microprocessors and pyrotechnics to create a realistic battlefield," explains Westmorland.

The realism is enough to get a helicopter pilot's blood pumping, he says. The company's rocket-propelled grenade simulator, for example, will set off all of the onboard alarms when fired toward an incoming helicopter full of Marines or soldiers.

The realities of the war on terror have sparked what Michael Kitchen, executive vice president of training and simulation at Arlington, Texas-based VirTra Systems Inc., calls the emerging market in products for "fourth-generation warfare" — a term used to describe military conflicts where the enemy is hidden among the civilian population and where the front lines are difficult to discern.

"Through the development of [advanced simulators], the soldiers can be placed in situations that are taken from actual combat incidents or created for specific missions," he says. **51972**



Central servers monitor simulated combat at Fairfax, Va.-based Anteon Corp.'s Military Operations on Urbanized Terrain training facility.

Verton is a freelance writer in Burke, Va.

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A Detour Into the Streaming Media

Finding herself in a new environment, our security manager decides to 'go slow to go fast.' By C.J. Kelly

IN MY PREVIOUS column ["Enough! I Quit!" Quick-Link 51579], I explained how I left my position to seek more amicable pastures. I am now working for a manager who is not only amicable, but also reasonable, intelligent, kind and mature. How did I find such a catch? I know the guy. I worked with him many years ago, and I always stay in touch with friends, ex-bosses and former co-workers. Rule No. 1 in this industry is to keep your network alive, keep your contacts list up to date and be willing to do a good turn for a colleague. It always comes back to you. When my new boss found out I was looking for a job, he recalled the weekends that I had helped him out on a critical project and immediately offered me a position.

It's a public-sector job, so I had a few mental adjustments to make. I'm working for a division within a very large government bureaucracy, and how I do my job will be very different from the way I operated in the private sector. For one thing, budget cycles are very long, so long-range planning is critical to getting funds allocated to specific projects.

Security managers always have endless to-do lists, but my position isn't well funded, the division isn't well funded, and there's no money to even hope to address the to-do list within three years.

When beginning a new job, I always identify the quick-hit list, problems that can be solved within the first 30 days of employment. I want to

prove my worth, but upper management tends not to see security tasks — tightening firewall rules, fine-tuning virtual private network performance, making sure the latest operating system patches are installed — as critical. I needed to identify some issues that I could address and that management would think were worth tackling.

Within the first week, I performed a network scan, reviewed documentation and interviewed my direct reports to get a feel for the network and security

architecture. I found that our division was attached to the larger government network, so our security was dependent on a vast array of network devices outside of our control. And the larger organization controlled our endpoints (that is, the routers). I realized I'd have to network diligently within the larger organization if I was going to make any headway in improving our division's security without making enemies. I needed to spend time understanding the political climate; no charging in and demanding change. As the saying goes, "Go slow to go fast."



How I do my job will be very different from the way I operated in the private sector.

Back to the quick-hit list. One of the chief complaints from end users was that the network was very slow, particularly during certain times of the year. That sounded odd to me, but I learned that when the legislature is in session, users like to watch the sessions from their desktop computers, with both audio and video. I knew from reviewing the network architecture that end users had 100MB switched to the desktop and, for most systems, Gigabit Ethernet to the desktop. The internal network was sound, fast and not nearly at capacity.

The constraint was older routers (working at RAM capacity and with slower CPUs) and T1 lines. So within our division alone, several hundred people were trying to access 128Kbit/sec. streaming media sessions at the same time. How many people do you think can successfully watch these sessions from their desktops before the T1 line (1.544Mbit/sec.) is at capacity? Do the math. Connectivity to the larger network is all but cut off. The network doesn't just slow down; it dies.

Simple Solution?

The solution seemed simple enough. I contacted the engineers responsible for the larger network and asked them if they would consider multicasting the legislative sessions to the entire network so that all the agencies would have access to the sessions without bogging down individual agency or division network connections. I received something between a sigh and a moan. One of the engineers mumbled something about security concerns. I did a little more research and realized that with the size of the network they manage, this

wouldn't be an overnight configuration change. What multicasting does is allow a unicast stream to be sent to each router within the WAN and, in turn, the audio/video traffic is multicast to the LAN. (Routers and switches must be configured to multicast.)

I then got in touch with the person responsible for the legislature's Web server farm and asked him if we could work with him directly to obtain the legislature's streaming media feeds (server-to-server configuration; forget the routers) and rebroadcast the streams within our own LAN. We got lucky. They were using Microsoft's streaming media Web servers, and we had within our possession a fairly beefy high-end server running Microsoft Windows 2003 Enterprise Edition.

It was a simple matter to enable the streaming media features on our server and obtain the media feeds from theirs. Our end users can now enjoy the legislative sessions by clicking on links provided on our own intranet. We pull in one stream and broadcast live streams to however many end users connect to our server.

This wasn't a security problem, but it did have high visibility. Now that I have this success under my belt, I hope I can focus on what I came here to do. Meanwhile, I have offered to participate in numerous committees at the larger government level focused on such things as homeland security, IT governance and IT architecture. I took the time to seek out and meet the chief information security officer, toured the data center and met with a guy who seems to have a knack for obtaining funding from grants and other sources. All in all, a pretty good first 30 days. ▀

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussion in our forum: **QuickLink a1590**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

SAP Initiatives Aim At System Security

SAP AG has launched two initiatives aimed at helping customers secure their SAP software. Under the SAP Consultant Certification program, consultants can verify their knowledge of security tools and measures that are applicable to SAP technology, the company said, adding that more than 20 consultancies have been certified. Under the other initiative, software providers can submit virus-scanning software to SAP's Integration and Certification Centers to have their interfaces tested and certified. The first virus-scan provider to have its interface endorsed is H+BEDV Datentechnik GmbH.

Worm Hides Behind Tetris

A new worm nicknamed "Cellery" (from a message it displays saying "Chancellery") is said to make changes to the Windows start-up settings of an infected PC to ensure that the game Tetris starts as soon as the machine is booted. The worm puts up a smoke screen while it attempts to infect network drives, according to Brett Myroff, CEO of NetXactics Communication SA, a distributor of South Africa Sophos PLC. He says that users are distracted by what looks like a copy of Tetris running on the PC, with a very convincing MIDI soundtrack, while the worm infects unsecured connections.

VeriSign Upgrades E-mail Service

VeriSign Inc. said it has added more spam-filtering options to its Email Security Service, as well as the ability to quickly update the rules engine for swift detection of new viruses. The managed e-mail service is used by businesses that want a third party to receive and filter messages before forwarding them to company servers.

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BRIEFS

IBM Releases Power5 With Linux

■ IBM is releasing a Power5 Linux-based server. Starting at \$3,449, OpenPower 710 is a 2U (3.5-in.-high) server that's available with one or two processors. Micropartitioning capability is available for chips in two-way servers for \$1,500. The server will be available Feb. 18.

SBC Announces Network Service

■ SBC Communications Inc. in San Antonio has announced a network monitoring service, PremierServ, that will allow businesses to track network and application performance in multiple locations regardless of the carrier being used. The new capability uses Visual UpTime Select from Visual Networks. Several service levels are offered; monthly pricing wasn't announced.

Radvision Updates ProLab Test Suite

■ Radvision Ltd. in Fair Lawn, N.J., announced the general availability of Version 3.5 of its ProLab Test Management Suite for testing and deploying voice- and video-over-IP products. Features include advanced signaling and media testing, advanced monitoring and built-in scripts. The product is available now, but pricing wasn't announced.

HP Opens 'Noisy Lab' to Test RFID

■ Hewlett-Packard Co. next month plans to open its RFID Noisy Lab in Omaha, where the vendor, its customers and partners can evaluate radio frequency identification technology in an environment that simulates a manufacturing floor and distribution center. The lab includes a conveyor that can reach speeds of 600 feet per minute and a pallet-wrap station on a turntable with RFID-read capability.

ROBERT L. MITCHELL

Kill Your Data

IT'S BEEN MORE THAN A YEAR since I wrote about how businesses have faced liability issues from data theft associated with incomplete disk erasure on discarded PCs and other devices (see "Dawn of the Undead Data," QuickLink 43381), and I still receive mail about it. The problem crops up

when the data you thought was completely erased isn't. In some cases, industrial spies, hackers or others can still access that information, which may contain company secrets or customer data.

Given rising concerns over privacy regulations and liability, it seems appropriate early in 2005 to clarify the issues and offer some practical advice.

Robert Houghton knows all about the liability issues surrounding disk erasure: He's president of Redemtech Inc., a company that reclaims computer equipment for businesses and must provide proof that data has been destroyed to its clients. If you're going to do it yourself, Houghton says to choose a utility that meets these five criteria:

- It runs from a floppy or CD-ROM, independent of the resident operating system.
- It's BIOS-independent — that is, it can access the hard disk directly.
- It's compatible with all drive hardware types and configurations in use.
- It includes verification and error-checking procedures that can identify all failures.
- It creates a report/audit trail proving successful erasure.

A good utility will overwrite all areas of the disk, including unallocated space and slack space — areas where old data can reside unseen until someone with forensic tools inspects the medium.

Vince Tuesday, a security manager at a large financial services company, takes a pragmatic approach. "Any tool that can overwrite every sector with random



ROBERT L. MITCHELL IS Computerworld's senior features editor. Contact him at robert_mitchell@computerworld.com.

zeros and ones with multiple passes should do the job," he says. Tuesday (not his real name) is a former columnist for Computerworld's Security Manager's Journal. He uses East-Tec Sanitizer, a disk-erasure utility from East Technologies. He runs the utility from a boot floppy and makes seven to 10 passes. At that point, he says, unless you're a government agency or

university with huge resources to spend on extreme recovery measures, the data is pretty much unreadable.

Just what are those extreme measures? This gets back to the so-called residual magnetism issue I brought up in my previous column on this topic. It may be possible to recover overwritten data from the outer region of the tracks on which each sector of the original data was written. But Benjamin A. Carmitchel, president of ESS Data Recovery Inc., says most companies don't need to worry about that.

"While it is theoretically possible to recover data after it has been written over, practically speaking, it is not feasible unless the perpetrator spends about \$250,000 for a spin stand and \$80,000 a year for a knowledgeable engineer who can run the equipment and read the resonance data," he says.

Engineers at ESS have been able to use this method on mylar (floppy) media, but not on a hard disk drive — yet. If foreign governments or the National Security Agency are interested in your data, you may have a problem. Otherwise, you can probably rest easy.

For corporate use, Carmitchel recommends X-Ways Security from X-Ways Software Technology AG.

"The fact that this program gives you an option to overwrite free and slack space up to nine times with random hex values makes it very reliable," Carmitchel says. While multiple erasure passes may help your peace of mind, he thinks one pass is adequate. The Department of Defense standard 5220.22-M, however, requires three. And other government guidelines for sanitizing media are classified and believed to be even more strict.

Ultimately, the easiest way to manage disk sanitizing for large numbers of machines is to outsource it. PC reclamation companies will erase the data for you as part of the disposal process. That's Tuesday's approach. His vendor uses Blancco Data Cleaner from Blancco Ltd., which wipes disks using a DOD-compliant algorithm. Inaccessible disks are destroyed, and Tuesday receives a certification of erasure and chain-of-custody documents for each asset.

Ultimately, however, IT must decide what level of disk sanitization is adequate, given the risks. In most cases, a multipass erasure process should be fine. But if the value of the data is high enough, the only fail-safe option is to melt or shred the disk.

Then again, all of this work will be for naught if employees have transferred sensitive data onto CD-ROMs or DVDs and then discarded them without shredding them first. Data recovery specialists have been able to recover data even from discs that were heavily scratched or snapped in two. But that's a subject best left for another column. **Q 52155**

MORE ONLINE

Sanitization Tips: See Vince Tuesday's best practices for IT equipment disposal: **QuickLink 52168**

Tip Sheet: Where to find disk sanitization tools and related information: **QuickLink 52169**

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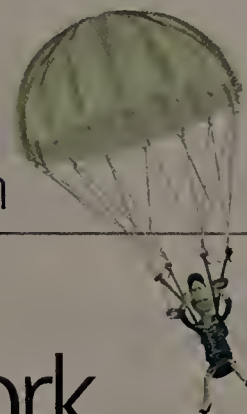
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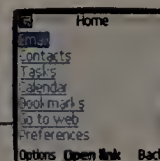
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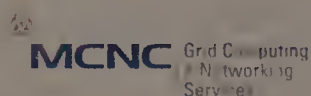
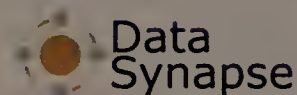


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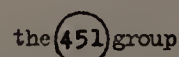
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Heading Off Hackers

IT security intelligence services can put your company a step ahead of malicious hackers and help you prioritize threats — but at a hefty price. **Page 37**



The Blame Game

Sick of watching your vendors point fingers at one another while your system woes goes unfixed? Here's how to get them to cooperate. **Page 38**

OPINION Outsourcing Decisions: They're Strategic

Outsourcing may be turning into business as usual, but Tom Hickey says the decision process is still critical, so stay involved. **Page 40**

Sarbanes-Oxley has doubtless changed the CIO's role, but for better or for worse is still unclear.

BY THOMAS HOFFMAN

WHEN SEN. PAUL S. SARBANES (D-Md.) and Rep. Michael Oxley (R-Ohio) crafted legislation in 2002 aimed at strengthening corporate governance and restoring investor confidence, little could they have known that the new law would help trigger a recasting of the CIO's role and the responsibilities of corporate IT departments across the U.S.

And it isn't just the Sarbanes-Oxley Act of 2002 that's contributing to the shift in the CIO's role. There are roughly 150 corporate governance regulations that companies have to adhere to worldwide, according to George Westerman, a research scientist in the Center for Information Systems Research at the MIT Sloan School of Management.

As a result, CIOs and IT departments have become integral to corporate compliance efforts, and their visibility within the organization has risen to new heights. Still, their increased stature may diminish once IT-related compliance requirements are under control.

Dimming Spotlight

Many believe that the evolving regulatory landscape has helped raise CIOs' visibility within their organizations. Sarbanes-Oxley compliance alone "is making people understand what is under the covers and how complex IT really is," says Dennis Fishback, senior vice president and CIO at Calpine Corp., a San Jose-based energy company. For example, Calpine's accounting group conducted 450 tests for its Sarbanes-Oxley Section 404 readiness efforts. In comparison, the company's IT department had to conduct thousands of tests to ensure its readiness, says Fishback.

"IT systems are so large and companies have become so much more dependent on their IT infrastructures that the potential for failure has gone up," says Rob Austin, a fellow at Cutter Consortium in Arlington, Mass., and a professor at Harvard Business School.

And while the changing regulatory environment has made the CIO more visible, it hasn't necessarily made the role more important. That's because the primary requirements imposed by recent regulations such as Sar-

Sarbanes-Oxley compliance is making people understand "how complex IT really is," says DENNIS FISHBACK of Calpine Corp.

ERIC MILLETTE

THE Sarb-Ox SHIFT

TRANSPARENCY TRUMPS

Data accessibility is a key component of Section 409 of the Sarbanes-Oxley Act, which calls for "real-time disclosures" on material changes to an organization's financial condition. "We fundamentally believe this is a huge systems problem," says John Parkinson, senior vice president and chief technology officer for the Americas at Capgemini. "Everyone is going to have to get much more transactional and get away from this idea that I can store stuff up all week and process it Sunday night."

New regulations are also requiring that organizations provide auditable, transparent systems controls, and that requirement is affecting how systems architectures are being approached and revised. "Clearly, when you looked at [systems] requirements in the past, they were around performance, function and scalability," says Martin Colburn, CIO at the National Association of Securities Dealers Inc. in Washington.

But now more is required. For example, because of the need for auditability, last summer NASD developed a Web-

based enterprise security system that gives the regulator for the Nasdaq Stock Market the ability to see into its systems to ensure proper authorizations and authentications as well as to determine who is connecting to which systems, says Colburn.

"There are greater demands on data accessibility within an enterprise," says Rick Berk, CIO at Brown Brothers Hariman & Co., a New York-based investment bank. "In essence, to simplify the data mining process we will increase the amount of data we store and create additional interfaces to facilitate access," he says.

Demands for greater data accessibility are providing an upside for CIOs who have been advocating architectural standards and better systems controls, says George Westerman, research scientist at the Center for Information Systems Research at the MIT Sloan School of Management. "Compliance is helping CIOs to sell a lot of projects that they've wanted to do," he says.

— Thomas Hoffman

banes-Oxley and the USA Patriot Act place the onus on CEOs, chief financial officers and business unit leaders, with CIOs playing a supporting role in compliance efforts.

When something goes wrong with IT, such as inventory problems that arise from a botched ERP project, "it's not the CIO who ends up on the hot seat but the CEO or CFO," says Austin.

"The accountability resides in those individuals who are directly responsible for the business," explains Bruce Fadem, CIO at Wyeth, a pharmaceutical company based in Madison, N.J. Fadem is in the process of establishing a single set of system policies and standards that can be used to help Wyeth meet regulatory requirements set under Sarbanes-Oxley as well as those imposed by the U.S. Food and Drug Administration.

Others agree that the CIO's regulatory role is more supporting than leading. CIOs "are there to explain to senior management whatever they need to explain, but it's housekeeping," says Paul A. Strassmann, an author and researcher in New Canaan, Conn. And while those duties are essential, says Strassmann, CIOs "are not chiefs in the same sense that a CFO is."

Closer to the CFO

But many see the CIO's relationship with the CFO growing closer. "IT is going to become much more intertwined with the finance function for a while," says John Parkinson, senior

vice president and chief technology officer for the Americas at Capgemini in Rosemont, Ill. "CFOs and operational executives are going to want a lot more evidence that IT is doing what they think it's doing."

The regulatory environment will also force CIOs "to have more knowledge of business controls and accountability," says Howard Rubin, executive vice president at Meta Group Inc. in Stamford, Conn. For the next two to three years, CIOs will be required to "worry about things" like data integri-

ty, security and the interplay between controls and systems, says Rubin. The result will be a closer partnership with the CFO. But once those compliance requirements are under control, "IT will fall into the backdrop of business processing," he says.

Impact in Doubt

Although some experts believe that the increasingly complex regulatory environment will raise the profile of CIOs, if only temporarily, some IT chiefs foresee a negative impact on their careers as businesses become much more risk-averse. "The biggest change for me and for other CIOs is that [increased regulation] has taken risk management decision-making entirely out of our hands, and that puts us in a hell of a bind," says Calpine's Fishback. "The auditors are telling us that any policy, process or procedure that is not based on trying to achieve zero or near-zero risk tolerance is a deficiency, and aggregation of enough of these deficiencies could result in a finding of one or more material weaknesses."

Under Sarbanes-Oxley, companies are required to identify and resolve any material weaknesses discovered in their IT or financial controls.

"It makes it that much harder to continue to drive your costs down and productivity up when you have to address things from a no-risk perspective," Fishback adds.

It's unclear whether regulations will heighten or diminish the CIO role, says Thomas W. Malone, a professor of management at the Sloan School. He contends that the IT function is be-

coming ever more important to the success of modern business. But as organizations are forced to address IT-related issues to comply with regulations, responsibility for IT may no longer be left to the CIO. Instead, the head of marketing or the director of manufacturing, for example, might share responsibility for their divisions' use of technology, he says.

Alternatively, CIOs may see their current responsibilities increase beyond IT management to accountability for the architecture of the entire organization. "CIOs have a privileged view of how the organization should be structured, like a chief organizational architect," says Malone.

Clearly, experts are divided regarding whether the new regulatory landscape will be a net positive for CIOs. "It's going to depend a lot on how the executive management teams respond to these pressures," says Parkinson. If the organization fails to respond to IT-specific regulatory requirements effectively and "they cast IT and the CIO as a villain, then CIOs will be subject to a lot of scrutiny and control," he says.

But if CEOs recognize that they and other C-level executives have to get their arms around the technology opportunities that regulatory compliance efforts provide them, says Parkinson, "then the office will gain in prominence and influence." **51938**

STOP WHINING

Opinion: The Sarbanes-Oxley Act is the future, says Robert Sepanloo of Fujitsu Software:

QuickLink 50869
www.computerworld.com

A Sarb-Ox for IT?

PRIVACY LAWS such as the USA Patriot Act and elements of the Sarbanes-Oxley Act of 2002 contain IT-specific requirements that organizations affected by these regulations have to meet.

But are we also likely to see national legislation aimed at alerting investors to IT-related risks at publicly held companies? CIOs and industry experts say they have mixed feelings about that.

There are already some examples of this in industry-specific regulations, says George Westerman, a research scientist in the Center for Information Systems Research at the MIT Sloan School of Management. For example, the Uniform Rating System for Information Technology, or URSIT, which is over-

seen by the Federal Financial Institutions Examination Council, requires an IT audit of banks and affiliated data processors.

As for something less industry-specific, he says, "I would think that any forthcoming regulations involving IT would be around risk, data accuracy and avoiding future surprises," such as huge processing snafus or failures of inventory management or other critical systems [QuickLink 51774].

Not everyone agrees. "It's more likely that we'll get security-related regulations than we would investor-related protections," says John Parkinson, senior vice president and chief technology officer for the Americas at Capgemini. "If an ERP implementation fails because you're no good at it, how do

you defend against that?" he asks.

Rick Berk, CIO at Brown Brothers Hariman & Co. in New York, says he expects to see federal and state legislation that's centered around the archiving, maintenance and accessibility of data. "We've already seen this with e-mail archiving legislation" specific to the banking industry, he adds.

It may take just a single major IT-related disaster that cripples a company and causes a panic among investors to spur legislation specific to IT-related risks, says Rob Austin, a professor at Harvard Business School. "It's only a matter of time before we have a train wreck [based on an IT failure] that brings down a company or hurts them badly," he says.

— Thomas Hoffman

INFORMATION
ADMINISTRATOR
MR. BONSAI



"You can't put a value on how much you are saving by protecting yourself from the next attack," says **BRUCE BONSAI**, CISO at Massachusetts Mutual Life Insurance.

WEBB CHAPPELL

HEADING OFF Hackers

Security intelligence services can give you a heads-up on impending threats and how to deal with them. **By Jaikumar Vijayan**

AS THE CHIEF INFORMATION security officer at Massachusetts Mutual Life Insurance Co., Bruce Bonsall is acutely aware of the need to keep one step ahead of the bad guys.

That's why he has subscribed to a cyberthreat assessment service from iDefense Inc. in Reston Va.

iDefense alerts customers such as the Springfield, Mass.-based insurer about possible attacks on their networks, using information gathered from a global network of security researchers, original vulnerability research, product vendors, national incident-response teams, underground hacker rooms and chat sessions.

The service warns about a range of risks — from impending worms and viruses to new software holes and even geopolitical events — that could affect

the security of overseas operations, Bonsall says.

These advance warnings are invaluable at a time when Internet and e-mail threats are becoming more sophisticated and are capable of spreading much faster than traditional defenses alone can handle, says Bonsall.

"Gathering intelligence and learning about things early on gives you more of a lead time to act on it," he explains. "The goal is to mitigate the risk of software vulnerabilities and the effects of attacks on your network."

Increasingly, it's a best practice to subscribe to such services, according to a November 2004 research note from Gartner Inc. "Information risk cannot be managed without tracking external events on a daily or even hourly basis, and analyzing their significance," the report says.

Gartner says that over the next two years, roughly 80% of all companies will spend about 10% of their security budgets on unnecessary fixes and that security intelligence services can help IT managers prioritize response and eliminate unnecessary remedial action.

A Different Approach

Radianz, a New York-based provider of telecommunications services to financial companies, uses a service from Symantec Corp. to monitor impending threats.

Symantec's DeepSight threat management system monitors global Internet attack activity using a combination of empirical data and human intelligence, says Dee Liebenstein, group product manager for the service.

Symantec's early-warning system collects firewall and intrusion-detection system data from about 20,000 sensors on customer networks in 150 countries. The data is analyzed for patterns of unusual behavior — such as sudden spikes in specific types of network traffic — that might suggest malicious activity.

A team of Symantec threat specialists also collects and monitors information from a variety of sources, including honeypots — systems that are used to lure hacker attacks — and hacker sites, looking for signs of new threats. Last May, the service warned users of the Sasser worm 18 days before it began infecting systems worldwide, based on information it collected in that manner, Liebenstein says.

That kind of lead time allows Radianz to make more-informed decisions when mounting a response, says Lloyd Hession, the company's chief security officer. Because Symantec's service is customized for each client, Radianz can focus on threats that are relevant only to its own technologies, he says.

For instance, about nine months ago, Symantec warned of a critical protocol vulnerability in Radianz's voice-over-IP networks that received little media attention but was vital to fix nonetheless, he says.

"Trying to get a measure of how significant a threat really is and whether it is really being exploited is hard," especially at a time when hundreds of new vulnerabilities are being discovered every month, Hession says. Knowing precisely what to focus on helps eliminate the otherwise costly disruptions that can result from rushing to address every single threat, he adds.

Meanwhile, regulations that require companies to demonstrate due diligence in securing IT infrastructures, such as the Sarbanes-Oxley Act, are driving interest in commercial intelligence services, says iDefense CEO John Watters. "Security is becoming more and more of a business issue," he says.

Even so, it's wise to exercise caution when using security intelligence information, says Howard Schmidt, chief information security officer at eBay Inc. and former security adviser to the White House. "I think it should be just one of the pieces in the CISO's tool kit," but not the most important one, he says. There's a "fair amount of false positives" in the information culled from alerting services, Schmidt points out. "These services are only as good as the input of the data they get. We need to get better at identifying and correlating data" to minimize this, he says.

"An early-warning system is like a weather forecast," says Gerhard Eschelbeck, chief security officer at Qualys Inc., a provider of network vulnerability management services in Mountain View, Calif. "It tells you if you should take an umbrella. But it's far from being perfect." **Q 51973**

Price and Value

The cost of commercial intelligence services can run from thousands to hundreds of thousands of dollars per year. iDefense won't quote a price, but the number is "well into the six figures," CEO John Watters says. Symantec's offering ranges from \$5,000 to \$15,000, depending on the number of subscribers, while IBM charges a flat \$10,000 annually for its new Security Intelligence Service.

The ROI from such services is hard to determine, says Bruce Bonsall, CISO at Massachusetts Mutual Life Insurance. "You can't put a value on how much you are saving by protecting yourself from the next attack," he says. But having good threat intelligence helps to reduce the cost of unnecessary fixes, says Bonsall, adding that since subscribing to the iDefense service, he has been able to reduce his intelligence staff by one person.

— Jaikumar Vijayan

MORE ONLINE

Information on intelligence providers and their methods: **QuickLink 51976**
Noncommercial sources of hacker intelligence: **QuickLink 52118**
www.computerworld.com



ISABELLE CARDINAL

THE Blame Game

Here's how strong IT managers get vendors to dispense with finger-pointing and work together. By Mary K. Pratt

WALLY YOSAFAT had a common problem with an unusual outcome. The CIO and e-business leader at Global Air Conditioning, part of Piscataway, N.J.-based American Standard Cos. discovered performance snags in a Web-based initiative. So he got workers from his company and three vendors to spend a November weekend at a Wisconsin facility working together to solve the problem.

It was an admirable feat of management, and one that might seem nearly impossible. Any IT executive who has ever worked on a project requiring multivendor integration knows that the vendors are more likely to blame one another than cooperate when something goes wrong.

"It's hard not to point the finger. We do it ourselves," says Janette Zabransky, managing director for IT finance,

vendor management and project management at American Airlines Inc. in Fort Worth, Texas.

But Zabransky, Yosafat and others don't settle for that. They employ several important tools, from contractual language to strong management practices, to get vendors to cooperate not only when work goes smoothly, but, more important, when systems head south.

"We stress [to vendors] that if they're going to be partners with us, they're going to learn to partner together," Zabransky says.

To encourage that, American Airlines CIO Monte E. Ford meets with representatives from his 10 most strategic vendors several times a year, Zabransky says. These conferences allow vendors to get to know one another and hear how much the airline values their cooperation.

"The softer side of managing people

is often forgotten with vendors," says Rick Swanborg, executive in residence at Boston University's School of Management and president of Icx Inc., a research and content management firm in Boston.

The savviest CIOs regard vendors as "just a natural part of the company," Swanborg says. They include vendors in strategic meetings and discussions about the organization's future IT plans, and they take them to lunch.

On the other hand, the vendor love-fest shouldn't keep IT executives from spelling out expectations. Best practices call for specific contractual language about cooperation.

"I would tell suppliers that part of the requirement in the RFP and in the contract itself is cooperation," says Bart Perkins, a *Computerworld* columnist and managing partner at Leverage Partners Inc., a Louisville, Ky., company that helps CIOs manage suppliers.

Perkins says he likes risk/reward contracts, in which vendors agree to incentives and penalties for reaching or failing to reach certain objectives, including cooperative behavior.

To give these contracts teeth, Perkins says, companies should act "brutally" with vendors that don't cooperate: "Take them out, shoot them at dawn, and make it public. Tell everyone you did it and why you did it."

Sounds harsh, but IT executives say it works. American Airlines contractually requires vendors to work with "any other third party designated by the company." It also reserves the right to replace a vendor representative if he isn't acting professionally. Zabransky says she has enforced this clause, removing uncooperative workers and helping to select replacements who are more willing to work with others.

Kyle McCormick, managing director at PFPC Worldwide Inc., a Wilmington, Del.-based software provider to the investment industry, says he spells out exactly what's expected from each vendor, from deliverables to dates and milestones. "The thing that has really helped us get by the typical finger-pointing problem is to frame out each area of work. If you had a pie and cut it into slices, each piece would have very specific details of what would have to be built in what time frame," he says.

IT execs say strong leadership, clearly identified point people and an established escalation plan all help keep vendors on track and focused on finding solutions rather than assigning blame.

"We have strong responsibility and strong leadership," says Deirdre Woods, associate dean and CIO at the

Checking References

- Can you describe the vendor's performance in the past?
- Can you describe the vendor's performance in the future?
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Wharton School at the University of Pennsylvania.

Woods cites times when her staff had representatives of Microsoft Corp. and IBM together on the phone to solve problems. "There's a certain amount of tenacity you need for that," she says. "But it's part of our job now. No one buys single-vendor solutions."

Still, neither Woods nor her directors handles every vendor-related problem. Woods says her philosophy is "good management rather than micro-management." She outlines clear paths of escalation, so if junior staffers can't get vendors working together, they send it up the chain of command.

Yosafat used a combination of these practices to get workers from his three vendors together in Wisconsin. The company had held team meetings, outlined clear expectations and exhausted other attempts to solve the problem remotely before calling people together that November weekend. "If they're used to working as a team from the beginning," he says, "cooperation is a lot easier." **51915**

Pratt is a Computerworld contributing writer in Waltham, Mass. You can contact her at markmary@mindspring.com.

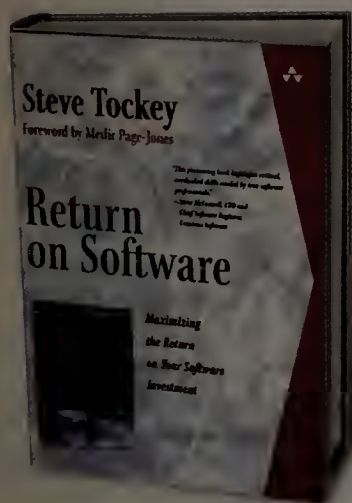
MAXIMIZING VENDOR VALUE

Cooperation can trump competition. Here's how:

QuickLink 51918
www.computerworld.com

Return on SOFTWARE

IT projects is the topic: pumping up ROI, requirements-led planning and rescuing those in trouble.



Return on Software: Maximizing the Return on Your Software Investment, Steve Tockey (Addison-Wesley, 621 pages, \$49.99).

Many software developers (including quality assurance and project managers) don't know how to create a business plan for the IT projects they work on or how to calculate returns from such efforts. But they should at least have a basic understanding of the various costs that go into software development projects and the kinds of returns to expect.

Tockey, a principal consultant at Construx Software Builders Inc., a Bellevue, Wash.-based software consultancy, provides developers with a detailed approach for gaining that understanding.

Readers with scant business

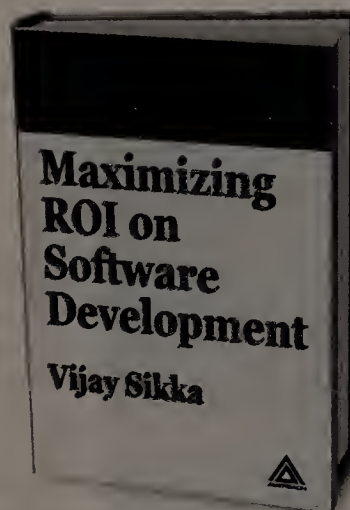
knowledge may have trouble following some of the financial terms, such as *cash-flow stream* and *equal-payment-series sinking-fund* (say that three times fast!), but Tockey does an effective job of describing these concepts in clear terms and providing sample formulas for readers to apply. He also thoroughly covers practical financial models, such as depreciation accounting methods and economic life cycles for IT assets.

Particularly useful are the self-study questions at the end of each chapter, which not only help readers to grasp concepts and techniques that have been introduced, but also allow them to reflect upon their previous project experiences.

Maximizing ROI on Software Development, by Vijay Sikka (Auerbach Publications, 253 pages, \$79.95).

Whereas Tockey's book is dense with financial calculations that can be applied to software development projects, Sikka's is more of a primer for project managers or software developers who are just starting to get their arms around ROI models.

Sikka, who spent half of his



16-year career developing real-time software quality, Six Sigma and other systems for Intel Corp.'s manufacturing operations, deftly provides an intro-

ductory software ROI road map that readers can return to as needed after they've finished the book.

He addresses

ROI largely in the context of newer development methodologies, such as agile programming, extreme programming, RAD and lean software development.

What the book may lack in depth (many of the subsections are just one or two paragraphs long) it makes up for in the comprehensive range of topics it offers the neophyte IT or business professional. Still, I would have expected to see more in-depth analysis on labor arbitrage, given that labor is the single largest cost in software development.

Project Rescue: Avoiding a Project Management Disaster, by Sanjiv Purba and Joseph J. Zuccherro (McGraw-Hill Osborne Media, 358 pages, \$39.99).

This book, which was written by two executives with nearly 50 years of IT management experience between them, is structured as a sequential approach to rescuing failing projects (i.e., identifying troubled projects, assessing the problems, planning the intervention, executing the intervention and so on).

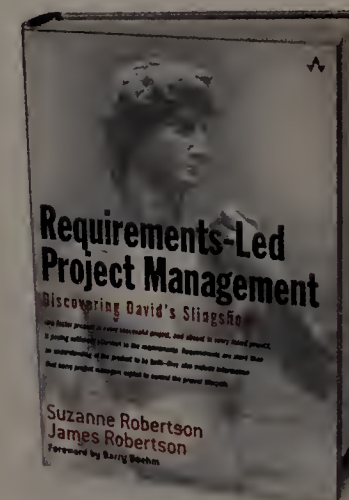
The book is aimed at anyone who works on IT projects, and it's very easy to follow and digest. It includes a slew of project checklists, methodologies and questions to ask at various stages of a project rescue attempt.

Unlike IT management books that take a Sermon-on-the-Mount approach, this one manages to offer practical advice without being preachy.



Requirements-Led Project Management: Discovering David's Slingshot, by Suzanne and James Robertson (Addison-Wesley, 327 pages, \$44.99).

The Robertsons are principals at The Atlantic Systems Guild Inc., a consulting firm with offices in New York and London that specializes in software development methods and management, with a particular focus on the human dimension. That concern with the human element is evident in this book, which strongly emphasizes the need to have the right people involved to ensure that a project succeeds. In fact, the authors devote an entire chapter to what they refer to as "project sociology."



The premise of this well-devised, cleanly written book is how to use a requirements-led approach to manage the project development life cycle. The Robertsons contend that just as David's slingshot was able to drop the mighty Goliath, the effective use of requirements-led project planning can also produce dramatic results.

That analogy might be a bit of a stretch, but anyone who's been involved in a disastrous project will probably see some validity in the comparison.

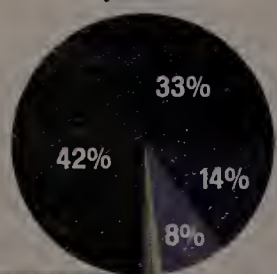
One of the strengths of this book is that it avoids relying too heavily on mind-numbing project-management terminology and instead is written on an almost conversational level that's sure to appeal to its target readers — project managers, business analysts and team leaders. **52035**

— Thomas Hoffman

QUICK HITS

PC Purchases

How often do you refresh desktop PC hardware across your user base?



- Every three years
- Every four years
- Every five years
- Less than every three years
- Every six years: 1%
- Don't know: 1%

Base: 78 North American companies
(Percentages don't add up to 100 because of rounding.)

Through what channels do you purchase new PC hardware?

Direct from manufacturer

77%

Local value-added reseller

31%

Regional distributor

17%

Retailer

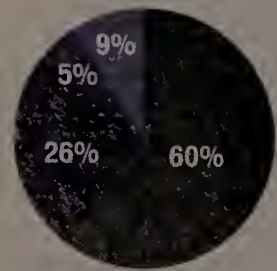
8%

Outsourcer as part of contract

3%

Base: 78 North American companies
(Multiple responses allowed.)

How often do you refresh laptops?



- Every three years
- Every four years
- Every five years
- Less than every three years

Base: 77 North American companies

Source: Forrester Research Inc., November 2004

TOM HICKEY

Outsourcing Decisions: They're Strategic

THE EXPORTING OF U.S. JOBS has received a significant amount of media attention. Thousands of skilled information services positions have been outsourced to countries with highly educated workforces and lower wages.

As outsourcing decisions become increasingly regarded as "business as usual," senior business management becomes increasingly less involved in the detailed decision-making process. The result: Many sourcing decisions made today are based largely on economics and not treated as strategic by executives, even though the long-term business implications can be monumental.

In today's global economy, the growing presence of offshore service providers requires decision-makers to consider several strategically important factors: long-term productivity and cost projections, physical and data security, long-term business and employment stability, political agenda and cultural differences, and business continuity capability.

Long-term productivity and cost projections. The drive toward outsourcing is often motivated by financial considerations—for example, to reduce capital requirements and long-term operating costs. Offshore outsourcing meets these objectives, at least superficially and in the short term. Initial cost differentials of approximately 40% are often cited as a major factor in relocating business processes offshore.

This differential can be significantly eroded, however, as you incur additional costs to manage and administer these outsourced functions. While the provider is responsible for managing daily operations, you, the client, must set up governance processes that effectively measure and monitor service levels. If the provider's employees lack training,

problems with quality and schedule-delivery may surface. Furthermore, initial cost differentials will likely erode as Third World workers seek to raise their living standards through higher wages and benefits.

Physical and data security. Treat your information assets' security with extreme care. The methods used to handle and back up data are critical to minimizing your security exposure. Offshore outsourcing poses some unique security risks, partially because of the dis-

tances separating you from your providers. Design contracts to recognize and mitigate data security risks by specifying procedures for handling critical information and requirements for maintaining those procedures.

Remember: Merely imposing service-level penalties without specifying security procedures allows breaches of security at a price. A managed level of security requires monitoring, measurement and due diligence from both parties.

Long-term business and employment stability. In an outsourcing transaction, the disposition of key personnel (those with unique process knowledge, extraordinary relationships with constituents, or other skills needed for the business process's ongoing success) is critical.

Contracts should specifically identify key people among the outsourcer's staff and limit their turnover or transfer during the contract term. General retention of the outsourcer's less-skilled employees is also important; high general turnover rates can drain the skills you

need to maintain service levels.

Political agenda and cultural differences. Successful outsourcing contracts emphasize control and accountability and usually include provisions for "acts of God" and other unforeseen disasters that mitigate the provider's responsibility. But you should also consider the potential impact of a foreign government's policies and actions.

Additionally, you and your provider must effectively communicate and work together despite cultural differences. Politics and culture do add risks. Consider the risks, plan for them, and manage them.

Business continuity capability. Senior business and IT executives might wish to avoid the topic of disaster recovery/business continuity; it's expensive and doesn't contribute positively to bottom-line results. However, this investment is a necessary cost of doing business.

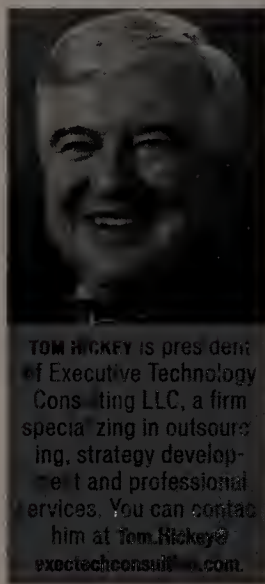
Designing and implementing an effective data-recovery plan requires effort and ongoing expense. And though there are more technical options available now to facilitate data backup and recovery, processing recovered data poses the same problems IT professionals have struggled with for years. The basic process issues (clearly identifying who, what, where, when and how much—all of which require rock-solid plans) are made more complex by offshore operations.

Outsourcing agreements are complex. Treat the decision to outsource, whether offshore or not, as a strategic issue requiring executive involvement. Decisions must not be based solely on the promise of short-term cost savings but also on the potential solutions' long-term viability. Contract terms must thoroughly address the additional risks and complexity of offshoring.

Be methodical and objective in making the outsourcing decision; don't just follow popular trends. **51897**

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Programmers/Analysts

Analyze, design, develop, test, and maintain relational database management systems.

The above-mentioned positions should possess any of the following skills:

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- IMS DM/DC or DB2, MVS/ESA, COBOL, CICS
- Focus, IDMS OR SAS

DBA

- ORACLE OR SYBASE
- DB2

Client-Server/WEB

- Ab-initio
- Websphere
- Com/Dcom
- Web Architects
- Datawarehousing
- Informix, C or UNIX
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- Web Commerce
- SAP/R3, ABAP/4 or FICO or MM & SD
- Oracle Applications & Tools
- Lotus Notes Developer
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- Visual Basic
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Mainframe Analyst/Programmer (Miami, FL) Write, update, maintain prgms written in COBOL/CICS for mainframe & fin'l services clients. Create/ maintain IDMS/R databases. Review work flow charts dvlpmt by systm analyst/prgmrs to understand how prgm should access data. Write physical d/base description to protect it from unauthorized access & tampering. Provide techl support & guidance for COBOL systms. Coord changes in computer d/bases. Review changes in physical dsgn of d/bases to assess effect on physical d/bases. Establish computer access level for each segment of d/base. Specify user access level for retrieval, modification, deletion. Conduct qlty control testing on codes & correcting errors. Enter codes to create production d/bases & utilities prgms to monitor performance of d/base. Modify data in fine-tuning d/base operations. Generate prototype for potential clients to visualize applics. 9 positions available. 40 hrs/wk, 9-5 pm, competitive salary. Bach deg or equiv, based on edu or exp, in Comp Sci/Systems Engg or related field, + 2 yrs exp in job offd. Resume to: SMX Services & Consulting, Inc., 7220 NVV, 36th St., Ste #421, Miami, FL 33166. Attn: Richard Quevedo.

Senior Software Engineer wanted to build and manage a team of developers to enhance and develop commercial, n-tier, web-based data applications. Must have Bachelor's degree in Computer Science or related field, and 3 years experience developing commercial n-tier web-based database applications for legal information tracking using ASP, VB, Com+ transactional technology, and SQL Server, including experience with advanced components, report development using SQL Reporting Services, and integration with document management/assembly systems, as well as 2 years experience importing data from 3rd party systems and designing software installation routines. (Experience can be concurrent). Contact Two Step Software Inc., 169 Elm Street, 2nd Floor, Waltham, MA 02453, Attn: Kristin Sheard, HR Coordinator.

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Valero, Inc. has position opening for SAS Information Systems Specialist. The Information Systems Specialist will be responsible for analyzing requirements, design, development and testing of a seamless integration process. Must have B's degree in engineering, comp sci or related degree (foreign degree equivalent accepted) w/ 2 years in position or as software developer, programmer or consultant. Please forward resume to: Jennifer Moreno, One Valero Way, San Antonio, TX 78249. No email or telephone inquiries.

Sr. Network Enginner/Project Mgr. Elitech International Corp seeks individual to design and implement voice networks, PBX voice mail and security systems for clients. Qualified apps must possess BS Electronic Engineering and 5 years of progressively responsible experience as a voice/telecommunications engineer. Submit resume and references to J.Leo, Managing Director, 485 Seventh Ave., Ste. 900 New York NY 10018

Business Analysts to gather, analyze, document, propose systems solutions; lead JAD sessions to analyze, gather, define user reqs, business process descriptions, using rational rose, visio etc.; re-engineer business processes/procedures, define/ document data models using SSAD, OOAD, RUP; analyze system performance exceptions, anomalies, problem areas; provide direction, assist project teams; Require BS or foreign equiv in Business/Mgmt/CS/Engg with 2 yrs exp as Business analyst or similar. Comp salary. Travel involved. F/T. Resume to: HR, Bahwan Cybertek Inc., 209 West Central Street, Ste 312, Natick, MA 01760.

Systems Analyst: Mfg/Pro manufacturing and logistics supply chain application systems. MBA & min 2 yrs exp Mfg/Pro. Mail resume to Al Edenzon, Firmenich, PO Box 5880, Princeton, NJ 08543.

Software Engineer reqd by Specialized Software & Consult. Co. Create web design using Macromedia dreamweaver & Adobe Photoshop. Dvp Win applics using VB.NET & C#.NET. Dvp web applics using ASP.NET & ASP w/Visual Studio.NET. Dvp d/base scripts for Oracle & SQL Server d/base. Create reports using Crystal Reports for various client reqmts. Dvp secure XML interface btwn client & server. Job to be performed in Rego Park, NY & various unanticipated client sites throughout US as assigned. Req Masters & 1 yr exp in job offd. 40hr/wk, 9a - 6p, M-F. Respond to Kapra Consultants, Inc, 9620 67th Ave, Rego Park, NY 11374.

Prog Analysts to analyze, test wireless/web s/w systems using C, Java, XML/ XSL, J2EE, JDBC, EJB, JSP, Servlets, HTML, ASP, Oracle, SQL Server on Windows, LINUX & UNIX OS; determine functional reqs, write design specs, evaluate tech. feasibility; develop reporting system for wireless appl on web servers/appl server; provide guidance for user problems, trouble shoot production issues. Require: BS or foreign equiv in CS/Comp Engg and 2 yrs exp in IT or M.S. in CS/Comp Engg. High salary. Job code A2W1204: HR, Air2Web, Inc., 1230 Peachtree Street NE, Promenade II, 12th Fl., Atlanta, GA30309.

Programmer Analysts

Seneca Foods Corporation is seeking Programmer Analysts experienced in LINC programming. Interested applicants please respond to: 3736 S. Main St., Marion, NY 14505 Attn: HR. EOE

Sr. S/W Engineersto manage teams, to develop, test, implement, SAP apps in PM, SM, MM and WM; analyze, design, develop apps using SAP R/3, ABAP/4, SAP Scripts, ALE/EDI etc under Windows, UNIX OS; evaluate, gather user reqs to determine feasibility, cost, time and develop specs; devise system-testing methodology, test/debug project appl code train team members, end users. Require MS or foreign equiv in CS/Engg (any branch) and 3 yrs exp or a BS or foreign equiv in CS/Engg (any branch) and 5 yrs relevant progressive exp. Travel involved, comp. salary, f/t. Resume to HR, Smartsoft International, Inc., 3965 Johns Creek Court, Ste 500, Suwanee, GA30024

Software Engg. needed. Burlington, MA based company has positions avail. for qualified candidates possessing MS/BS or equiv. w/ relevant work experience. Duties include: Design, develop, implement & customize software applications for various business clients using 3 of the following: Unix, Sun Solaris, IBM-AIX & SQL Servers, Weblogic, C#, C/C++, Visual Basic, VB.NET, Java, .NET, J2EE, ASP.NET/ADO.NET, DOORS, Rational Rose and Visio, Websphere, PL/SQL & Oracle/Sybase databases. Mail resume to Iconsoft Inc., 101 Cambridge St., Suite 305, Burlington, MA 01803.

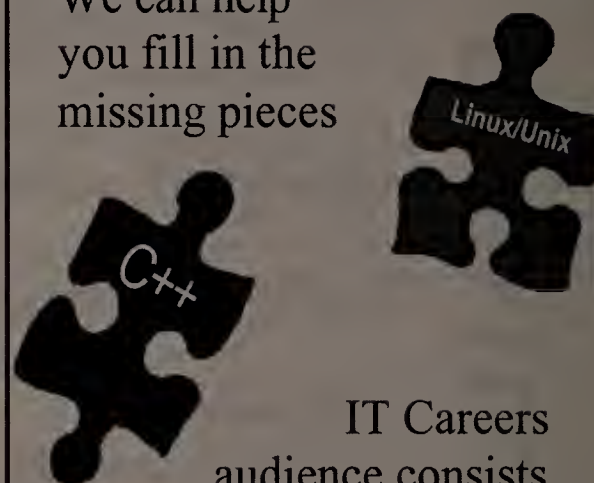
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Prog Analysts to analyze, develop apps using C, C++, Java, XML, VBScript, VB, HTML, SQL, etc; use Mercury Win Runner & Load Runner to provide automated functional/regression testing, performance load and stress testing for web based apps; interact with clients, end users for reqs gathering, analysis, planning & implementation; modify, debug existing software apps. Require BS or foreign equiv in CS/Engg (any branch) with 2 yrs of exp in IT or an MS or foreign equiv in one of the above fields. F/T. competitive salary. Travel involved. Resumes to: HR, Semafor Technologies, Inc., 3300, Holcomb Bridge Road, Ste212, Norcross, GA30092.

PROGRAMMER ANALYSTS req'd for Raleigh, NC office. Design & Develop software applications using C, C++, VB, Delphi, ASP, XML, UML, Coolgen, Interwoven, Oracle, PL/SQL, Developer 2000 & Designer 2000; Bachelors or Equivalent req'd in Computers, Engineering, math or related field of study + 2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Send resume to HR Manager, Allied Business Consulting, Inc., 8700 W.Bryn Mawr, Suite 800 South, Chicago, IL 60631.

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Legislators Seek to Extend Review of IBM PC Sell-off

Three key congressmen claim that purchase by Lenovo could threaten national security

BY SUMNER LEMON

THE PLANNED acquisition of IBM's PC business by Beijing-based Lenovo Group Ltd. may pose a threat to U.S. national security and deserves a closer review by Congress and government agencies, three prominent Republican lawmakers said last week.

Their concerns about the deal were spelled out in a letter to U.S. Treasury Secretary John Snow. The letter was signed by House International Relations Committee Chairman Henry Hyde (R-Ill.), House Armed Services Committee Chairman Duncan Hunter (R-Calif.) and House Small Business Committee Chairman Don Manzullo (R-Ill.).

The representatives are worried that the sale of the IBM PC unit to Lenovo could transfer advanced technology and corporate assets to the Chinese government, along with export-controlled technology, according to a statement released by Hunter's committee.

Security Concerns

Lenovo is a public company that's listed on the Hong Kong stock exchange. However, its parent company and largest shareholder, Legend Holdings Ltd., is closely tied to the Chinese Academy of Sciences, a government institution that manages national scientific research efforts in China and is directly overseen by the State Council, China's highest administrative body.

"Given the important issues

at stake, Congress and other federal agencies need more time to evaluate the process and provide comments on the sale," the three lawmakers said in the statement.

In response, Lenovo spokeswoman Angela Lee said that the company "continues to cooperate with the routine review [of the planned acquisition] by all regulatory bodies."

But the call for additional time to examine the deal makes an extended review by

the Committee on Foreign Investment in the United States (CFIUS) "very likely," said Helen Lau, an analyst at Celestial Asia Securities Holdings Ltd. in Hong Kong.

Lau said a possible result of an extended review is that the U.S. could allow the deal to go through but block the sale of IBM's PC research and development operations. That would reduce Lenovo's ability to compete against rivals such as Dell Inc. and Hewlett-Packard Co., he said.

CFIUS is an interagency panel that's chaired by Snow. Treasury Department officials

couldn't be reached for comment on the review of the IBM/Lenovo deal last week.

The concerns raised by Hyde, Hunter and Manzullo add to the uncertainties already facing the acquisition, which was greeted skeptically by some of Lenovo's investors and has prompted many IBM users to consider switching to a different PC vendor.

"Change always makes people nervous," said Philip Papadopoulos, an IBM ThinkPad user and the program director of grid and cluster computing at the San Diego Supercomputing Center. "My nervous-

Congress and other federal agencies need more time to evaluate the process and provide comments on the sale.

FROM A STATEMENT ISSUED BY REPUBLICAN CONGRESSMEN HENRY HYDE, DUNCAN HUNTER AND DON MANZULLO

ness is that the vision of the ThinkPad will get lost in transition," Papadopoulos added, though, that he will likely stick with Lenovo if it maintains the quality of the product line.

52217

Lemon writes for the IDG News Service. Fellow reporters Paul Kallender and Tom Krazit contributed to this story.

Continued from page 1

VoIP

VoIP in a secure manner. For example, the report calls for IT managers to build logically separate voice and data networks. Another recommendation is that "if practical," PC-based VoIP softphones shouldn't be used in deployments in which either security or data privacy is a priority.

"Administrators may mistakenly assume that since digitized voice travels in packets, they can simply plug VoIP components into their already-secure networks and remain secure," the report said. "However, the process is not that simple."

The NIST report was being circulated last week among U.S.-based network security personnel at GlaxoSmithKline PLC. The pharmaceutical maker is running a VoIP trial with about 450 end users at a facility in North Carolina, said Charles Goodall, its manager of global voice technol-

ogy and architecture.

"We'll take the report and do additional research," he said, adding that the company's IT staff plans to evaluate future VoIP deployments in offices globally.

GlaxoSmithKline is running separate virtual LANs for voice and data traffic as part of the VoIP trial, Goodall said. The company is also testing softphone technology to see if it's usable, never mind secure.

"VoIP security is a big part

of our strategy, but it's not really at the top of the list of what we're exploring," Goodall said. "We won't say we must have it secure to deploy it. Even digital voice is somewhat insecure, too."

A Good Starting Point

Roger Farnsworth, a marketing manager at Cisco, said the NIST report is a good place to start for IT managers considering VoIP projects. He added that a point made by NIST about the difficulty of using the Network Address Translation standard with VoIP is "not a trivial problem." That issue is being addressed by Cisco, other vendors and standards bodies, Farnsworth said.

David Endler, an executive at software developer Tipping-Point Technologies Inc. in Austin, said security vendors and researchers are organizing an alliance to call attention to VoIP security needs.

But many large companies and federal agencies, some with tens of thousands of users, have already deployed

VoIP systems securely, said Zeus Kerravala, an analyst at The Yankee Group in Boston.

"Obviously, it's important to think about security with VoIP," Kerravala said. "But to say some of what [NIST has] said, especially about softphones, shows a little bit of backwards thinking. I think, somewhat, it's written by Luddites."

NIST computer security expert Richard Kuhn, one of the report's three co-authors, said the document wasn't designed to warn IT managers away from using VoIP technology.

"VoIP is moving ahead very, very fast," Kuhn said. "We don't want to scare people away from this. But we want to point out that this is complex technology and there are a lot of security considerations that they may not have thought of." 52209

MORE ONLINE

To read a PDF version of NIST's report, go to our Web site:

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EXCERPT

Lower cost and greater flexibility are among the promises of VoIP for the enterprise, but VoIP should not be installed without careful consideration of the security problems introduced.

FRANK HAYES ■ FRANKLY SPEAKING

Open-Source Foes

YES, SUN MICROSYSTEMS' new OpenSolaris really is an open-source project. And no, it's not likely to be much like the Linux open-source project. How are they alike? Both projects will produce a production-grade version of Unix, including source code, that we'll be able to download and use without paying for. So from where corporate IT sits, there's lots of similarity.

But where OpenSolaris and Linux came from, how they're licensed, how the code can be used — that's all different, in some cases very different. And yes, that may matter to IT after all.

Why? Competition. As in: That's what we get the benefits of.

And not just competition between two similar operating systems, but between two very dissimilar ways of doing open-source.

Think about it. Linux was created from the ground up by Linus Torvalds and an army of programmers around the world. OpenSolaris was created by a major software vendor using a more traditional software-development process.

Linux has a large and growing installed base. OpenSolaris officially has none, though Sun's existing Solaris customers are a good start.

Linux has propeller-head cachet and market credibility, along with billions of dollars in technical and marketing investment from companies such as IBM, Red Hat and Novell. OpenSolaris has one company behind it and Scott McNealy at its press conferences.

See? Dramatically different business models, both of which will be competing for the same pool of volunteer programmers to continue development, and for entrepreneurs to find ways of making money from these products.

Things get more interesting when we look at what's usually the most boring part of a software package: the license agreements.

Linux uses the popular GPL open-source license, which requires that any code that's tightly linked with GPL-licensed code and then republished must also be GPL code. That way, everything stays open-source.

For OpenSolaris, Sun worked up its own open-source license, the Common Development and Distribution License. (Actually, the CDDL is modeled on the open-source license for the Firefox and Mozilla Web browsers.) A key feature of the CDDL is that it lets CDDL-licensed

code be stitched together with non-CDDL code — even proprietary code.

Sun's CDDL also explicitly licenses patents, and Sun says it will include 1,670 patents that go along with OpenSolaris code. But those patents can *only* be used with Sun's code. Changing the code means losing the patent protection. That's a much more limited deal than IBM's recent contribution of 500 patents for use with any open-source code.

Those CDDL features are heresy to Linux-style open-source advocates. And in practice, they mean it will be nearly impossible for anyone to distribute software that intermixes Linux and OpenSolaris code. The GPL and CDDL terms simply aren't compatible.

What's good about that? It guarantees that the OpenSolaris project won't be a clone of Linux, no matter how similar the final products might be.

They'll compete — not just as operating systems, but in business model, development style and licensing approach.

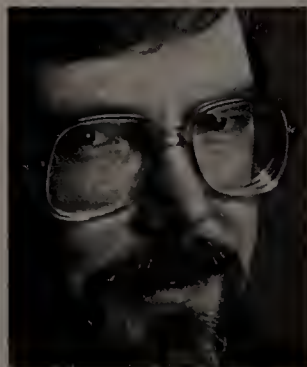
Which version of open-source is better, and for what, and in what ways? That won't be an academic argument. We'll find out in the real world of the marketplace.

The competition won't be pretty. It will bruise egos and force hard thinking on both sides. But out of it, we'll get a better Linux, a better Solaris — and a better understanding of what's valuable in open-source.

Not bad for something we thought didn't matter, eh?

And for you Linux partisans outraged by Sun's open-source heresy that violates your every assumption about how it's done, here's a word of consolation:

Now you know how Bill Gates feels. ☎ 52199



FRANK HAYES, *Computerworld's* senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Good Boss, Bad Boss

Pilot fish is supposed to create a new corporate budget process, but his boss can't get input from users, though he tries again and again. "The project is put on hold," says fish. "Six months later, users question whether the new budget system will be ready for this year's budget. My boss reminds them that they haven't told us what they want the system to do. To this, a user replies, 'I know exactly what I want the system to do. But I'm waiting to see if it'll do it.'"

Whew!

Non-IT boss senses DSL ads on TV, so he asks pilot fish why the company doesn't use it. "If it ain't broke, don't fix it," fish suggests — but it's clear that the boss wants DSL. "I was told to put together a report outlining the pros and cons," says fish. "I pored over literature, called colleagues, scoured the Internet for information, all the while dreading the inevitable. Finally, I called the local DSL provider to learn the exact cost." The response: "Not available in your area."



make me look good.' I remarked that I would see what I could do

— and found my presentation was off the meeting agenda."

Go Phish

Changing certain IT security policies is a bad idea, pilot fish argues in a report for senior management. "I specifically said the average user is not aware of the types of social-engineering tactics used," says fish. "The point was proved when management sent the paper back for editing because 'phishing' had been misspelled."

Priorities

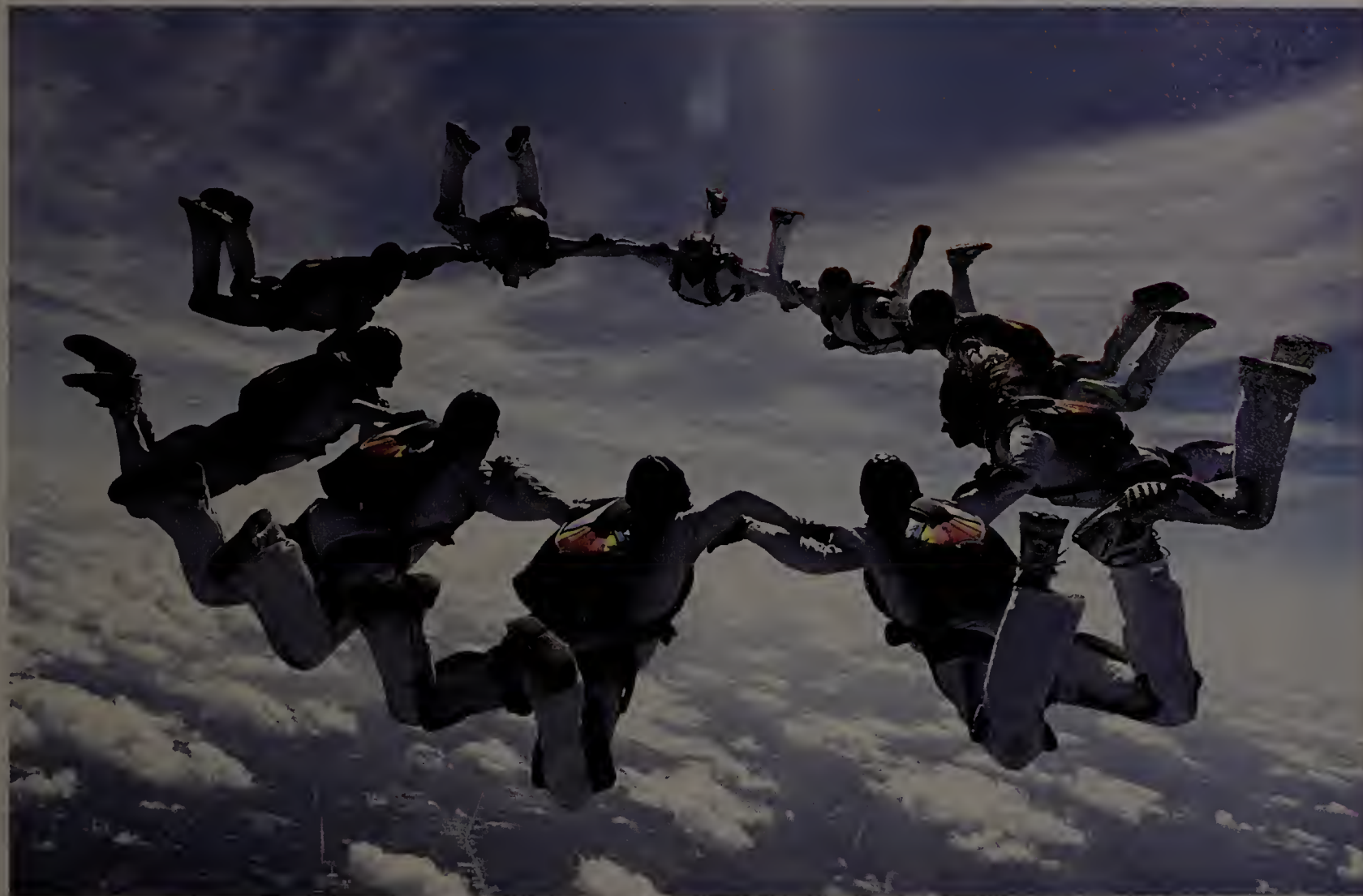
This IT pilot fish is slated to give a presentation to upper management, and his boss wants to see a rehearsal. "I went through the litany of hardware and software updates and network improvements, then began to talk about our current staffing challenges," fish says. "My boss stopped me and said, 'I don't want you to talk about that. I want you to talk about things that will

Let 'em Try

Web manager pilot fish needs to test the company's public Web sites on different platforms, so he requests a Macintosh. "The IT Cap Ex group replied with a voice mail saying that I don't need a Mac — just the different browsers in use today," grumbles fish. "I replied with my own voice mail, saying they were welcome to try to load Safari on my PC."

THIS WEEK, SHARKY says goodbye to Sami Lais, longtime aide-de-Shark, who's been sifting through stories, getting clarifications, doing the heavy lifting and generally whipping the Shark Tank into shape for the past five years. So long, kid, and thanks — you'll be missed. Meanwhile, don't let Sharky get any lonely. Send me your true tale of IT life at sharky@computerworld.com. You'll get a sharp Shark shirt if I use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at computerworld.com/sharky.

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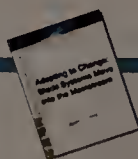
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